GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd.

OM protein - protein search, using sw model

Run on: October 10, 2002, 06:17:05; Search time 26.4 Seconds (without alignments) 43.677 Million cell updates/sec

Title: Perfect score: Sequence: US-09-629-719D-8 61

1 XPRGGSVLVTGC 12

Scoring table: BLOSUM62 Gapop 10.0 , Gapext 0.5

Searched:

Total number of hits satisfying chosen parameters: 1579

283138 seqs, 96089334 residues

nimum DB seq length: 0 aximum DB seq length: 12

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

PIR_71:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

		P			0011111111	
Result No.	Score	Query Match	Length I	В	ID	Description
1	28	5 !	11	2	S60354	retinal oxidase -
2	26	2	7	4	S15597	4 rara 5'-
ω	24		10	2	A61131	rin 2 - bul
4	24	•	12	2	A33900	-
ហ	23	37.7	11	N	YHRT	genet
6	23	37.7	11	Ν	YHHU	morphogenetic neur
7	23	37.7	11	N	YHBO	morphogenetic neur
	23	37.7	11	N	YHXAE	morphogenetic neur
	23	37.7	11	2	- 32	morphogenetic neur
110	2 2 2 2	34.4	o 40	N	A60522	sperm-activating p
12	21	4.4			T65231	drurecto neuropepo
13	21	34.4	12	N	S70337	2
14	21		12	N	S43170	n ligh
15	20	32.8	9	2	A26363	cardioactive pepti
16	20	•	. 9	N	S27233	(U
1.	, ,	32.8	12	\ \	A49261	coagulation factor
1 0	1 1 9	31.1	, 	~	PC219/	zymogen granule me
19	19	31.1	10	N	A55695	proteoglycan core
20	19	31.1	12	2	A61309	glycoprotein hormo
21	19	٠	12	2	865629	protoporphyrinogen
22	19	31.1	12	2	РН0930	T-cell receptor be
23	18	•	8	N	PT0530	T-cell receptor be
24	18	•	9	N	в28495	conopressin S - co
25	18	•	9	N	S06375	arginine vasotocin
26	18	•	9	N	B61364	vasotocin - common
27	18	•	11	N	PN0169	NADH dehydrogenase
28	18	29.5	11	N	PT0218	T-cell receptor be
29	18	29.5	12	Ν	S29479	hypothetical prote

Qy

2 PRGGSV 7

Query Match 42.6%; Score 26; DB 4; Length 7; Best Local Similarity 83.3%; Pred. No. 2.8e+05; Matches 5; Conservative 0; Mismatches 1; Indels

0; Gaps

0;

45	44	43	42	41	40	39	38	37	36	ω 5	34	ω ω	32	31	30	
16	17	17	17	17	17	17	17	17	17	17	17	17	17	17	18	
26.2	27.9	27.9	27.9	27.9	27.9	27.9	27.9	27.9	27.9	27.9	27.9	27.9	27.9	27.9	29.5	
თ	12	12	11	11	11	11	11	10	10	9	9	8	7	4	12	
۵	N	2	Ŋ	N	Ν	Ν	N	N	N	N	_	ν	N	2	2	
JU0355	PH1606	A60757	A34243	I52304	PH0947	PC2173	E60691	S06964	E60589	A60957	YFPG	PT0279	E61491	S47552	PT0319	
lipopeptide WS1279	Ig H chain V-D-J r	enterotoxin C-1 -	H-hyosophorin - Ja	gene rSSTR4 protei	T-cell receptor be	triacylglycerol li	phycobilisome 8K l	hypothetical prote	sperm-activating p	thymocyte growth p	thymic factor - pi	Ig heavy chain CRD	seed protein ws-5	ubiquitin - rat	Ig heavy chain CRD	

ALIGNMENTS

	A;Residues: 1-7 <bra> A;Cross references: EMBL:X56058; NID:g35876 A;Note: this ORF from Fig. 2 is not annotated in GenBank entry HSRARA2, C;Comment: This sequence is not thought to be translated. C;Genetics: A;Gene: GDB:RARA A;Cross references: GDB:120337; OMIM:180240 A;Map position: 17q12-17q12</bra>	C;Accession: S1597 C;Accession: S1597 R;Brand, N.J.; Petkovich, M.; Chambon, P. Nucleic Acids Res. 18, 6799-6806, 1990 A;Title: Characterization of a functional promoter for the human retinoic A;Reference number: S15594; MUID:91088249 A;Accession: S15597 A;Molecule type: DNA	RESULT 2 \$15597 orf 4 rara 5'-region - human C;Species: Homo sapiens (man) C;Date: 04-Jun-1999 #sequence_revision 04-Jun-1999 #text_change 28-Jun-1999		Query Match 45.9%; Score 28; DB 2; Length 11; Best Local Similarity 55.6%; Pred. No. 1.2e+02; Matches 5; Conservative 0; Mismatches 4; Indels 0; Gaps	RESULT 1 \$560354 retinal oxidase - rabbit (fragment) c:Species: Oryctolagus cuniculus (domestic rabbit) C:Species: Oryctolagus cuniculus (domestic rabbit) C:Species: Oryctolagus cuniculus (domestic rabbit) C:Date: 24-Aug-1996 #sequence_revision 13-Mar-1997 #text_change 13-Mar-1997 C:Accession: \$60354 R:Huang, D.Y.; Itohikawa, Y. Biochim. Biophys. Acta 1243, 431-436, 1995 A:Title: Identification of essential lysyl and cysteinyl residues, and the A;Reference number: \$60354 A;Accession: \$60354 A;Accession: \$60354 A;Status: preliminary A;Molecule type: protein A;Residues: 1-11 <hua></hua>
--	--	---	--	--	---	--

```
N;Alternate names: arginine-vasotocin-related peptide; vasotocinyl-Gly-Lys C;Species: Xenopus laevis (African clawed frog) C;Date: 09-Mar-1990 #sequence_revision 09-Mar-1990 #text_change 31-Mar-1997 C;Accession: A3900; S30176
R;Rouille, Y; Michel, G.; Chauvet, M.T.; Chauvet, J.; Acher, R.
Rroci Natl. Acad. Sci. U.S.A. 86, 5272-5275, 1989
A;Title: Hydrins, hydroosmotic neurohypophysial peptides: osmoregulatory adaptation in a Reference number: A33900; MUID:89315779
A;Reference number: A33900; MUID:89315779
R;Molecule type: protein
A;Residues: 1-12 CROUP
R;Iwamuro, S.; Hayashi, H.; Kikuyama, S.
Blochim. Biophys. Acta 1176, 143-147, 1993
A;Title: An additional arginine-vasotocin-related peptide, vasotocinyl-Gly-Lys, in Xenop A;Reference number: S30176; MUID:93200145
A;Nolecule type: protein
morphogenetic neuropeptide - C; Species: Rattus norvegicus
                                             YHRT
                                                                                                                                                            20
                                                                                                                                                                                                                                                                                                          A;Residues: 1-12 <TWA>
C;Keywords: neuropeptide
                                                                                                                                                                                                                                                                                                                                 A; Molecule type: protein A; Residues: 1-12 < IWA>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           C;Accession: A61131
R; Yamashita, M.; Kikuyama, S.
Gen. Comp. Endocrinol. 84, 412-418, 1991
A;Title: Arginine vasotocin (AVT) and AVT-related peptide
A;Reference number: A61131; MUID:92225310
A;Accession: A61131
                                                         RESULT
                                                                                                                          ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT
A33900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             C;Superfamily: oxytocin-neurophysin
C;Keywords: amidated carboxyl end; neuropeptide; pituitary
F;1-9/Product: Arg-vasotocin #status experimental <RVAS>
F;9/Modified site: amidated carboxyl end (Gly) (amide in mature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C;Species: Rana catesbeiana (bullfrog) C;Date: 10-Mar-1994 #sequence_revision
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          N; Alternate names: AVT-re
N; Contains: Arg-vasotocin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           hydrin 1 - African clawed frog
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     hydrin 2 - bullfrog
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local S
Matches 4
                                                                                                                                                                                                                          Query Match
Best Local Similarity
                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Molecule type: protein esidues: 1-10 <IWA> comment: Both the decapeptide (hydrin 2) and the amidated
                                                                                                                          7
                                                                                                                                                                2 PRGG 5
                                                              ഗ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |||| |
| PRGGVV 7
                                                                                                                        PRGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                          10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        տ
                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             39.3%; Score 24; DB 2; L
llarity 100.0%; Pred. No. 5.6e+02;
Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AVT-related peptide
                                                                                                                                                                                                                            39.3%;
(Norway rat)
                                                                                                                                                                                                                          Score 24; Pred. No.
                                                                                                                                                                                                       0;
                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   10-Mar-1994 #text_change 11-Jul-1997
                                                                                                                                                                                                                          DB 2; L
. 6.6e+02;
                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                              Length 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 10;
                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      are
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               nonapeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    major aldosterone-releasir
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    form
                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (Arg-vasotocin)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                following
                                                                                                                                                                                                       0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             glyc
                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δõ
```

```
morphogenetic neuropeptide - bovine (:Species: Bos primigenius taurus (cattle) C:Date: 20-Jun-2000 #sequence_revision 20-C;Accession: C01427; A01427 R;Bodenmuller, H.; Schaller, H.C.
                                                                                                                                                                                                                                                                                                                                                                                                         C;Superfamily: unassigned animal peptides C;Keywords: blocked amino end; growth factor; F;1/Modified site: blocked amino end (Gln) (pr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Molecule type: protein
A; Residues: 1-11 < 80D5.
R; Birr, C.; Zachmann, B.; Bodenmuller, H.; Schaller, H.C.
FEBS Lett. 131, 317-321, 1981
A; Title: Synthesis of a new neuropeptide, the head activa
A; Reference number: A91296; MUID: 82050803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Note: the synthetic peptide was identical with the natural peptide in chemical stru C;Comment: This peptide was first isolated from nerve cells of hydra and was called h malian intestine and hypothalamus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Note: the synthetic peptide was identical with the natural peptide in chemical stru C; Comment: This peptide was first isolated from nerve cells of hydra and was called heen found in mammalian intestine at solated halamus.

C; Superfamily: unassigned animal peptides
C; Keywords: growth factor; hormone; hypothalamus; intestine; neuropeptide; pyroglutam F; 1/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C;Accessandler, H.; unable 293, 579-580, 1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Reference number: A; Accession: B01427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C;Date: 20-Jun-2000 #sequence_revision C;Accession: B01427; A01427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Title: Synthesis of a new neuropeptide, A; Reference number: A91296; MUID: 82050803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   R;Birr, C.; Zachmann, B.; Bodenmuller, H.; Schaller, H.C FEBS Lett. 131, 317-321, 1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Molecule type: protein A; Residues: 1-11 <BOD>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Reference number: A; Accession: A01427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Title: Conserved amino acid sequence of A; Reference number: A93266; MUID: 82035850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C;Date: 20-Jun-2000 #sequence_revision 20-Jun-2000 #text_change 20-Jun-2000
C;Accession: A01427
                                                                                                                                        RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Contents: annotation; synthesis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Title: Conserved amino
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Nature 293, 579-580, 1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C; Species: Homo sapiens (man)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           morphogenetic neuropeptide - human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Contents: annotation; synthesis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    R; Bodenmuller,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local
                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                          Ν
                                                                                                                                                                                                                                                  2 PRGGSVLV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 PRGGSVLV 9
                                                                                                                                                                                                          PPGGSKVI 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PPGGSKVI 9
                                                                                                                                                                                                                                                                                                   4 ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity 4; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 H.; Schaller, H.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 H.; Schaller, H.C.
                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A93266;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  acid sequence of 66; MUID:82035850
                                                                                                                                                                                                                                                                                                                      37.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    37.7%;
50.0%;
                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 23; DB 2; Le
Pred. No. 9.1e+02;
                                                                                                                                                                                                                                                                                                                    Score 23; DB 2;
Pred. No. 9.1e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              20-Jun-2000 #text_change
                                               20-Jun-2000 #text_change 20-Jun-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ۵
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    а
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                the head activator from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              the head activator
                                                                                                                                                                                                                                                                                                                                                                                                           or; hormone; hypothalamus; intestine; no (probably pyrrolidone carboxylic acid)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    neuropeptide,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     neuropeptide,
                                                                                                                                                                                                                                                                                                                                         Length 11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 11;
                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       head
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         head
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 20-Jun-2000
                                                                                                                                                                                                                                                                                                 0,:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         activator,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       activator,
                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       from
                                                                                                                                                                                                                                                                                                                                                                                                           neuro
d) #st
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    င္ပ
```

```
morphogenetic neuropeptide - Hydra attenuata N.Alternate names: head activator C.Species: Hydra attenuata c.pate: 20-Jun 2000 *sequence_revision 20-Jun C.Accession: B93900; A01427 R.Schaller, H.C.; Bodenmuller, H.
                                                                                                                                       RESULT
YHJFHY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Molecule type: protein
A; Residues: 1-11 <SCH»
R; Birr, C.; Zachmann, B.; Bodenmuller, H.;
FEBS Lett. 131, 317-321, 1981
A; Title: Synthesis of a new neuropeptide,
A; Reference number: A91296; MUID:82050803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            R:Schaller, H.C.; Bodenmuller, H. Proc. Natl. Acad. Sci. U.S.A. 78, A:Title: Isolation and amino acid A:Reference number: A93900 A:Accession: A93900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C;Species: Anthopleura elegantissima
C;Date: 20-Jun-2000 #sequence_revision 20-Jun-2000
C;Accession: A93900; A01427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A:Molecule type: protein
A:Residues: 1-11 <BOD>
R:Birr, C.; Zachmann, B.; Bodenmuller, H.;
FEBS Lett. 131, 317-321, 1981
A:Title: Synthesis of a new neuropeptide,
A:Reference number: A91296; MUID:82050803
A:Contents: annotation; synthesis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C; Superfamily: unassigned animal peptides C; Keywords: blocked amino end; growth factor; hormone; hypothalamus; intestine; no F;1/Modified site: blocked amino end (Gln) (probably pyrrolidone carboxylic acid)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Note: the synthetic peptide was identical with the natural peptide in c; Comment: This peptide was first isolated from nerve cells of hydra and malian intestine and hypothalamus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Reference number: A; Accession: C01427
                                                                                                                                                                                                                                                          20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Note: the synthetic peptide was identical with the natural C; Comment: This peptide was first isolated from nerve cells of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              morphogenetic neuropeptide - sea anemone N;Alternate names: head activator
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Title: Conserved amino
                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Contents: annotation; synthesis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                              mammalian intestine and hypothalamus
                                                                                                                                                                                                                                                                                                                      Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                      Superfamily: unassigned animal peptides Keywords: growth factor; hormone; neuro
                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local Similarity
                                                                                                                                                                                                                                                                                                                        Local Similarity
                                                                                                                                                                                                                        N
                                                                                                                                                                                                                                                            2 PRGGSVLV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ν
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2 PRGGSVLV 9
                                                                                                                                                                                                                        PPGGSKVI 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PPGGSKVI 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4
                                                                                                                                                                                                                                                                                                                                                                                                        site:
                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
Bodenmuller, H. Sci. U.S.A. 78,
                                                                                                                                                                                                                                                                                                                                                                                                   pyrrolidone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      amino acid sequence of a neuropeptide,
A93266;.MUID:82035850
                                                                                                                                                                                                                                                                                                                    37.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       37.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Bodenmuller, H.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Bodenmuller, H.; Schaller,
                                                                                                                                                                                                                                                                                                                                                                                                   none; neuropeptide; pyroglutamic acid
carboxylic acid (Gln) #status experi
                                                                                                                                                                                                                                                                                             Score 23; DB 2; Pred. No. 9.1e+02; Sematches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          7000-7004, 1981 sequence of a m
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 23; DB 2;
Pred. No. 9.1e+02;
7000-7004, 1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                        20-Jun-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (Anthopleura elegantissima)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 the head
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Schaller,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  head
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          morphogenetic peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 activator
                                                        #text_change
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  activator
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     #text_change 20-Jun-2000
                                                                                                                                                                                                                                                                                                                                         Length 11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 11;
                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      the head activator,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 l peptide
of hydra
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                from
                                                                                                                                                                                                                                                                                                                                                                                                   experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               from
                                                          20-Jun-2000
                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0,
                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 in and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       from hydra
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 chemical struct
d was called hea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                chemical sti
d was called
                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   neurope
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  struct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       #stat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      coel
```

```
A; Residues:
A; Note: two
C; Keywords:
                                                                                                                                                                                                                                      C:Species: Locusta migracura (...) C; Date: 31-Dec-1988 #sequence_revision C:Accession: A29477 C:Accession: A9477 C:Accession: Miller, C.A.; Li, J.P.;
                                                                                                                                                          R:Proux, J.P.; Miller, C.A.; Li, J.P.; Carney, R.L.; Girardie, A. Biochem. Biophys. Res. Commun. 149, 180-186, 1987 A;Title: Identification of an arginine vasopressin-like diuretic A;Reference number: A29477; MUID:88077077 A;Accession: A29477
                                                                                                                                                                                                                                                                A2347.
diuretic neuropeptide F1 - migratory locust
C;Species: Locusta migratoria (migratory locust)
C:Date: 31-Dec-1988 #sequence_revision 31-Dec-1988 #text_change 31-Dec-1993
                                                                                                                                                                                                                                                                                                                                 RESULT
A29477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Molecule type: protein
A; Residues: 1-9 < YOS>
C; Superfamily: unassigned animal peptides
E; 2-9/Disulfide bonds: #status experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             R;Yoshino, K.I.; Kurita, M.; Yamaguchi, M.; N
Comp. Biochem. Physiol. B 95, 423-429, 1990
A;Title: A species-specific sperm-activating
A;Reference number: A60522; MUID:90227916
A;Accession: A60522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C;Species: Diadema setosum
C;Date: 17-Apr-1993 #sequence_revision 17-Apr-1993 #text_change 18-Aug-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   n mammalian intestine and hypothalamus.
C;Superfamily: unassigned animal peptides
C;Keywords: growth factor; hormone; neuropeptide; pyroglutamic acid
F;1/Modified site: pyrrolidone carboxylic acid (Gln) #status experi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Note: the synthetic peptide was identical with the natural C; Comment: This peptide was first isolated from nerve cells of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Title: Synthesis of a new neuropeptide, A; Reference number: A91296; MUID:82050803 A; Contents: annotation; synthesis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; MoLecule type: protein
A; Residues: 1-11 < SCH
R; Birr, C., Zachmann, B.; Bode
FEBS Lett. 131, 317-321, 1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Title: Isolation and amino acid sequence of a morphogenetic peptide from hydra A;Reference number: A93900 A;Accession: B93900
                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            sperm-activating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C; Accession: A60522
                                                                                                                                            A; Molecule type: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A60522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT
Best Local Similarity
Matches 3; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
                                    Query Match
                                                                                                                                                                                                                                                                                                                                                    11
                                                                                                                                                                                                                                                                                                                                                                                                         3 PWGGAV
                                                                                                                                                                                                                                                                                                                                                                                                                                           2 PRGGSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2 PPGGSKVI 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2 PRGGSVLV
                                                                                                          neuropeptides,
                                                                                                                           1-9 <PRO>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4;
                                                                                                                                                                                                                                                                                                                                                                                                         œ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            peptide SAP-IV -
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                 34.48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 37.7%;
50.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               34.48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bodenmuller,
                                                                                                            F
                                                                                                            and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 21; DB Pred. No. 2.8e

1; Mismatches
 1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 21;
Pred. No.
                                                                                                            F2,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              sea urchin (Diadema setosum)
 Mismatches
                                                                                                            were
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Η.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      the
                                                                                                            identified.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Schaller,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Nomura,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 2;
2.8e+05;
                   DB 2;
2.8e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 peptide from the egg jelly of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      head activator from hydra
                                                                                                                                                                                                                                      R.L.; Girardie, A.; Delaage, M.;
                                    Length 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      K.; Takao,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 11;
 Indels
                                                                                                            F2
                                                                                                            S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             l peptide in
of hydra and
                                                                                                            an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      T.;
                                                                                                          antiparallel
0;
                                                                                                                                                                                                     hormone from Locusta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Shimonishi,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             in chemical stru
and was called h
Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
 0
                                                                                                            dimer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ۲
: .
                                                                                                                                                                                                                                         Schoo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ۲
                                                                                                            of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Su
```

```
R:Neumann, G.M.; Condron, R.; Thomas, I.; Polya, G.M.
Biochim. Biophys. Acta 1295, 23-33, 1996
A;Title: Purification and sequencing of multiple forms of Brassica napus seed napin A;Reference number: S70336; MUID:96283790
A;Accession: S70337
A; Status: preliminary
A; Molecule type: DNA
A; Residues: 1-1,2 <CHE
                                                              A; Description: Promoter fi:
A; Reference, number: $43170
A; Accession: $43170
                                                                                                R;Chernajovsky, Y.; Brown, A.; Jones, T.A.; Sheer, D. submitted to the EMBL Data Library, December 1992 A;Description: Promoter first exon/intron characteriz
                                                                                                                                                         kinesin light chain - human (fragment)
c;Speciles: Homo sapiens (man)
C;Date: 13-Jan-1995 #sequence_revision 18-Aug-2000
C;Accession: S43170
                                                                                                                                                                                                                                  RESULT
S43170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               napin small chain S2 - Swedish turnip (fragment)
C;Species: Brassica napus var. rapifera (Swedish turnip, rutabaga)
C;Date: 19-Mar-1998 #sequence_revision 17-Apr-1998 #text_change 07-May-1999
C;Accession: S70337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C;Species: Homo sapiens (man)
C;Date: 29-May-1998 #sequence_revision 29-May-1998 #text_change 21-Jul-2000
C;Accession: I65231
R;Miyake, A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Biochem. Biophys. Res. Commun. 208, 230-237, 1995
A;Tille: A truncated isoform of human CCK-B/gastrin receptor generated by alternative us
A;Reference number: I52307; MUID:95194412
A;Accession: I65231
                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                             δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
Matches 4; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Genetics:
Gene: CCK-B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Cross-references: GB:S76072; NID:g913752; PIDN:AAB33740.1; PID:g913753
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ntatus: preliminary; translated from GB/EMBL/DDBJ olecule type: mRNA Residues: 1-11 <RES>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Nolecule type:
Residues: 1-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gastrin receptor isoform - human (fragment)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1:1 +
2 LITNC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    12
                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                               N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ||::|:
4 GGNMLI 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4 GGSVLV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8 LVTGC 12
                                                                                                                                                                                                                                                                                                                              PRGGS 6
                                                                                                                                                                                                                                                                                                            PGGGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            σ
                                                                                                                                                                                                                                                                                                            ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             protein
NEU>
                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                   34.48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         34.4%;
                                                                                                                                                                                                                                                                                                                                                                                  Score 21; DB Pred. No. 2.2e 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ω
••
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 21; DB 2;
Pred. No. 2.1e+03;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                  characterization
                                                                                                                                                                                                                                                                                                                                                                                                                         DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                   2e+03;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                            #text_change 18;Aug-2000
                                                                                                                                                                                                                                                                                                                                                                                                                   Length 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 11;
                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                  and chromosomal location
                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0,
                                                                                                  of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        sma
```

```
DЬ
                                                                                         Š
                                                                                                                                                                                    A; Reference number: A26363
A; Accession: A26363
A; Molecule type: protein
A; Residues: 1-9 <STA>
                                                                                                                                                                                                                                                                                   cardioactive peptide - green crab (fragment)
C;Speciles: Carcinus maenas (green crab, common shore crab)
C;Date: 25-Oct-1987 #sequence_revision 25-Oct-1987 #text_change 18-Jun-1993
C;Accession: A26363
                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
Search completed:
Job time: 252 sec
                                                                                                                                                                                                                                            A; Title: Unusual cardioactive peptide
                                                                                                                                                                                                                                                        R;Stangier, J.; Hilbich, C.; Beyreuther, K.; Keller, Proc. Natl. Acad. Sci. U.S.A. 84, 575-579, 1987
                                                                                                                                                                                                                                                                                                                                                      RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Cross-references: EMBL:X69658; NID:g468786; PIDN:CAA49349.1;
                                                                                                                     Query Match
Best Local S
Matches 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                          10
                                                                                                                                                                                                                                                                                                                                                       15
                                                                   7
                                                                                                                                                                                                                                                                                                                                                                                               ω
                                                                                                                                                                                                                                                                                                                                                                                                                       3 RGGS 6
                                                                 TGC 9
                                                                                                                                                                                                                                                                                                                                                                                               RGGS
                                                                                           TGC 12
                                                                                                                     Similarity 3; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                                                                                                                                                                                                                                                               6
                                                                                                                                                                                                                                                                                                                                                                                                                                                 34.48; ilarity 100.08; Conservative
                                                                                                                      Conservative
              October 10,
                                                                                                                     32.8%; Score 20;
100.0%; Pred. No.
:ive 0; Mismatc
              2002,
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 21;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                   0;
              06:17:06
                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                            (CCAP) from pericardial organs of the shore cra
                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 2; L. 2.2e+03; 0;
                                                                                                                                   DB 2; L
2.8e+05;
                                                                                                                      0;
                                                                                                                                              Length 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 12;
                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PID: g468787
                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                   0,
                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                      0
                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
```

```
Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Run
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OM protein -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           nimum DB
Maximum DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                on:
    Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                         13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         protein search, using sw
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          length:
length:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query
Match
  US-09-629-719D-8
61
1 XPRGGSVLVTGC 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               October 10, 2002, 06:21:20; Search time 17.65 Seconds (without alignments) 26.325 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BLOSUM62
Gapop 10.0 ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SwissProt_40:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                105224 seqs,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GenCore version 4.5
Copyright (c) 1993 - 2000 Comp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           12
  DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   38719550 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gapext 0.5
MORN_HUMAN
DNFI_LOCMI
CCAP_CARMA
CONO_CONST
OXYT_CYPCA
NUHM_CANFA
THYF_PIG
V14K_WSSV
RS7_MYCIT
TKNA_SCYCA
CONO_CONGE
MGMT_BOUVIE
MRK_ONCMY
CXYT_RAJCLI
SAP_STOVA
TKL3_LOCMI
OXYT_RAJCLI
SAP_STOVA
TKL3_LOCMI
CEPL3_COMI
CEPL3_LOCMI
DRASS_LIRME
CAD1_ENTFA
UF06_MOUSE
ISOT_CYPCA
ESTA_SCHGA
PAPL_SCHGA
PAPL_SCHGA
DAPL_SCHGA
ESTA_SCHGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   : D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Compugen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ltd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        463
 P23879
P423879
P64982006
P61255
P782006
                                                                                                                                                                                                                                                                                                                                                                                                                      P16339
P38556
P05487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 P01163 homo sapien
4 mus musculu
3 cyprinus ca
2 schizaphis
3 pardachirus
6 nicotiana p
8 homo sapien
4 bothrops in
4 carausius m
4 litoria rub
2 physcomitre
                                                                                                                                                         a conus imper
i raja clavat
stomopneute
locusta mig
achatina fu
periplaneta
cyprinus ca
enterococcu
hirudo medi
                                                                                                                                                                                                                                                                                                                                 6 white spot
4 mycobacteri
3 scyliorhinu
                                                                                                                                                                                                                                                                                                                                                                                        9 locusta mig
6 carcinus ma
7 conus stria
9 cyprinus ca
0 canis famil
                                                                                                                                                                                                                                                                                                                                                              sus so
                                                                                                                                                                                                                                                                                          oncorhynchu
                                                                                                                                                                                                                                                                                                      conus geogr
bos taurus
                                                                                                                                               enterococcu
                                                                                                                                                                                                                                                                                                                                                                          scrota
```

RR	RN RY RT	REE ACCOMMON ON ONE OCC	
[4] [4] FUNCTION MEDLINE-S Schaller "Head act in the G EMBO J. E E EMBO J. E E E E E E E E E E E E E E E E E E E		R SUL	30000000000000000000000000000000000000
INE 9005992 ILLE 9005992 ILLE 9005992 ILLE H.C., d activator he G2/millos J. 8:33110- 8:33110- 8:33110- 8:33110- 8:33110- 8:33	SEQUENCE. SPECIES=Human MEDLINE=8203 Bodenmuller "Conserved an from coelent Nature 293:5 [2] Nature 293:5 [2] SEQUENCE. SPECIES=A.el. SChaller H.C SPECIES=A.el. SChaller H.C "Isolation an hydra."; Proc. Natl. [3] SYNTHESIS. MEDLINE=8205 BIRT C. Zac "Synthesis o FEBS Lett. 1	1 1 1 1 1 C C C C C C C C C C C C C C C	12 12 12 12 12 12 12 12 12 12 12 12 12 1
Central Control Contro	han, Rat, U. 33,850; Rot, W. 23,850; Scha amino aci tterates tterates tterates tt.579-580(1). Boden and amino and amino and amino . Acad. Sc 508003; Pu bo508003; Pu bofa new 131:317-3	HUMAN MORN. HUMAN MORN. HUMAN MORN. HUMAN MORN. HOMAN 21-JUL-1986 (Rel. 01, 21-JUL-1986 (Rel. 01, 21-JUL-1986 (Rel. 34, MOrphogenetic neurope Homo sapiens (Human), Rattus norvegicus (Ra Bos taurus (Bovine), Anthopleura elegantis Hydra attenuata (Hydra Eukaryota; Metazoa; C Mammalia; Eutheria; F NCBI_TaxID=9606, 1011	119.7 119.7 119.7 119.7 119.7 119.7 119.7 119.7
N. NO. PO059923; PubMed-2583101; PO059923; PubMed-2583101; PO059923; PubMed-2583101; PO059923; PubMed-2583101; IT H.C., Druffel Augustin S., Dubel S.; CCTIVATOR acts as an autocrine growth factor for complete transition."; 8:3311-3318(1989). RCTION: HA ACTS AS AN AUTOCRINE GROWTH FACTOR FOR THE GZ/MITOSIS TRANSITION. THE GZ/MITOSIS TRANSITION. THE GZ/MITOSIS TRANSITION BY THE AUTHORS, BECAU DISTRIBUTION IN THIS AND SPECIFIC GROWTH AND DIFFERENTIATION IN THIS AND POTHALAMUS. NA FOUND IN MAMMALIAN INTESTINE AND HYPOTHALAMUS. 11427; YHHU. 11427; YHHU. 11427; YHHU. 11427; YHHO. 11427; YHAAE. 13900; YHJAE. 13900; YHJAE.	, Rat, and Bovine \$50; PubMed=72901 . Schaller H.C.; ino acid sequence rates to humans.* 9-580(1981). 9-580(1981). 9-580 (1981). 9-580 (1981).	DARD; 1, Cre 1, Las 4, Las peptic), Rat), Rat), Standdra dra primm 116,	4 / 00000000000000000000000000000000000
ad-2583 August s an au sition. 39). RNS AN A RNS A RNS AN	nd Bovine; ded=72901; ler H.C.; sequence humans." 31). 31). 31).		
bMed-2583101; el-Augustin S. as an autocri ansition."; 1989). S AS AN AUTOCR S TRANSITION. S TRANSITION ETIDE WAS FIRS EAD ACTIVATOR OWTH AND DIFFE MMALIAN INTEST	;;; ;; ;; ;; ;; ;; ;; ;; ;; ;; ;; ;; ;;	PRT) quen nota ead ead cra Cra Cat	TUFT_HUMAN LANC_CARU AL16_CARMA AL19_CARMA FAR7_ASCSU LMT2_LOCMI LPK_LEUMA PPK3_PERAM PPK3_PERAM UC26_MAIZE UPA1_HUMAN UPAA_HUMAN UPAA_HUMAN
ine growt GROW IST ISOLAT BY THE AND TINE AND	a neu	upda upda on up ivat ivat ivat one), aris)	C_HUMAN CARMA CARM
bel S.; rowth f. GROWTH : GLATED : GOLATED : HE AUTH HE AUTH HE AUTH HE AUTH	ope mor 04(a . I	ω
actor FACTOR FROM N IN THI	lde, togenet	AA.	
H S Z	r ic he	Euteleos	P0185 P368181 P81811 P81817 P2339 P2339 P1304 P8269 P8269 P8269 P8269 P8063 P8063
			64888661866
T NI C	tiva fro	tom1;	homo sap carnobac carcinus carcinus carcinus cascaris locusta leucopha periplan periplan ca mays homo sap
Cells FELLS HAS	tor,		salinus inus ris sta opha opha pla may: salis
•			cter cter mas mas mas suu mig lea lea leta leta cien cien cien cien cien cien cien cien

```
RESULT
CCAP_C!
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             망
                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                            CCAP_CARMA STAN
P38556;
01-OCT-1994 (Rel.
01-OCT-1994 (Rel.
15-DEC-1998 (Rel.
                                                                                                                                                                                                                                                      CARMA
                                                          01-OCT-1994 (Rel. 30, Created)
01-OCT-1994 (Rel. 30, Last sequence update)
15-DEC-1998 (Rel. 37, Last annotation update)
Cardioactive peptide (CCAP).
Carcinus maenas (Common shore crab) (Green crab),
Manduca sexta (Tobacco hawkmoth) (Tobacco hornworm),
Tenabryo mollitor (Yellow mealworm), and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DISULFID DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PROSITE;
Hormone;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LOCUSTA HILLIANDE AND LATER AND LATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DNF1_LOCMI
P16339;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MOD_RES
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MOD_RES
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro; IPR000981; Neurhypophys_horm. Pfam; PF00220; hormone4; 1. PROSITE; PS00264; NEUROHYPOPHYS_HORM; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE-88077077; PubMed:3689410; proux J.P., Miller C.A., Li J.P., Delaage M., Schooley D.A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-AUG-1990 (Rel.
01-AUG-1990 (Rel.
15-DEC-1998 (Rel.
                   Spodoptera eridania (Southern armyworm).
Eukaryota; Metazoa; Arthropoda; Crustace
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Locusta migratoria (Migratory locust).
Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda;
Pterygota; Neoptera; Orthopteroidea; Orthoptera; Cael
Acridomorpha; Acridoidea; Acrididae; Locusta.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID-7004;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Identification of an arginine vasopressin-like diuretic hormone Locusta migratoria.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Locupressin (Diuretic neuropeptide F1/F2).
                                                                                                                                                                                                                                                                                                                                        N
                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ŋ
                                                                                                                                                                                                                                                                                                                                                                               LVTGC 12
                                                                                                                                                                                                                                                                                                                                        LITNC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PPGGSKVI 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRGGSVLV
                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
3; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Neuropeptide;
                                                                                                                                                                                                                                                                                                                                        6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                11
                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ≱ 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      96+
                                                                                                                                                                                                                                   STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                15, Created)
15, Last sequence update)
37, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              976
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           \begin{matrix}1\\1142\end{matrix}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         37.
50.
                                                                                                                                                                                                                                                                                                                                                                                                                                            34.48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ₩.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Amidation.
IN F1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .78;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ¥.
    Decapoda;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              56EB176EB451A057 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                          ۲.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2
                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 21;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score
Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 INTERCHAIN (WITH INTERCHAIN (WITH AMIDATION.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PYRROLIDONE CARBOXYLIC ACID 37927417C325B878 CRC64;
                                                                                                                                                                                                                                   PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRT;
                     Crustacea;
                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          and Thoracic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Carney
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           . No.
  Pleocyemata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 1,
3.9e+02;
2;
                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 1;
1e+05;
                                                                                                                                                                                                                                   φ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 R.L.,
                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A
                   Malacostraca;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ganglion;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C-6')
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Girardie
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length
Brachyura;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                caelifera;
                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (IN
NI)
                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                      0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0,
                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          from
                                                                                                                                                                                                                                                                                                                                                                                                                      0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
  TO THE PROPERTY OF THE PROPERT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CONO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local
                                                                                                                                                                                                                                                                                                        01-NOV-1988 (Rel. 09, Created)
01-NOV-1988 (Rel. 09, Last sequence update)
01-NOV-1995 (Rel. 32, Last annotation update)
Arg-conopressin S.
Conus striatus (Striated cone).
Eukaryota; Metazoa; Mollusca; Gastropoda; Caneogastropoda; Conoidea; Conoidea; Conus.
                                                                                                                                                                                                         Cruz L.J., o
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Neuropeptide;
DISULFID
MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CONO_CONST
P05487;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SPECIES::M.sexta; PubMed::1426284; MEDLINE:93050243; PubMed::1426284; Cheung C.C., Loi P.K., Sylwester A.W. "Primary structure of a cardioactive hawkmoth, Manduca sexta."; FEBS Lett. 313:165-168(1992).
                                                                                                                                                                                                                            MEDLINE=88058932; PubMed:3680228; Cruz L.J., de Santos V., Zafaralla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CONST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PIR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Furuya K., Liao
Schooley D.A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SPECIES T.molitor, and S.eridania; MEDLINE-94176032; PubMed:8129851;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Proc. Natl.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SPECIES-C.maenas;
                                                                                                                                          "Invertebrate vasopressin/oxytocin peptides from Conus geographus and Distribution Conus 362:15821-15824(1987).
                                                                                                                                                                                                                                                                       SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Biol.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        molitor and Spodoptera eridania
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eubrachyura; Portunoidea; Portunidae; Carcinus. NCBI_TaxID=6759, 7130, 7067, 37547;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Isolation and identification of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        10 TGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A26363;
S27233;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FUNCTION:
TISSUE SPI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OLNI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
3; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          THE HEMOLYMPH.
                                                                                                                                                                                                           de Santos V.,
Olivera B.M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ဖ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            32.8%;
ilarity 100.0%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A26363.
S27233.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Acad.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ã,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Amidation.
                                                                                                                                            Conus geographus and Co
262:15821-15824(1987).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S., Reynolds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sci. U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    959
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ¥
₹
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 20;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S.E.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           . 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                              G.C.,
                                                                                                                                                                  Conus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A
```

```
MEDLINE-89024586; PubMed-3052286; Gray W.R., Olivera B.M., Cruz L.J.; "Peptide toxins from venomous Conus snails."; Annu. Rev. Biochem. 57:665-700(1988).
-i- SIMILARITY: BELONGS TO THE VASOPRESSIN/OXYTOCIN FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SPECIES-C maenas; TISSUB: Pericardial organs; Stangier J., Hilbich C., Beyreuther K., Keller "Unusual cardioactive peptide (CCAP) from peric shore crab Carcinus maenas.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Chem. Hoppe-Seyler 374:1065-1074(1993).
UNCTION: THE EFFECT OF CCAP IS BOTH INO- AND CHRONOTROPIC ISSUE SPECIFICITY: STORED IN PERICARDIAL ORGANS AND RELEADERS.
                                                                                                                                                                                                                                                                                                                                                                                                                        Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AMIDATION.
C5A861A9CDD44EB9 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             84:575-579(1987).
                                                                                                                                                                                         homologs. Characterization of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cardioactive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ota R.B., Hackett M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TISSUE-Head;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ., Lee T.D., T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       le+05;
                                                                                                                                                                       straitus
                                                                                                                                                                                                                                 Ramilo C.A., Zeikus R.D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   pericardial organs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Tublitz N.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      from the tobacco
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        و
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RELEASED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      of.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Tenebrio
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
```

```
RESULT 6
                                                                                      В
                                                                                                                            8
                                                                                                                                                                                                                                                                                    SQ FT DR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCL RELEASE RE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DR DR DR DR FT SQ
                                                                                                                                                                         Matches
                                                                                                                                                                                             Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OXYT_CYPCA
P23879;
01-NOV-1991
01-NOV-1991
                                                                                                                                                                                                                                                                                    MOD_RES
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Lane T.F., Sower S.A., Kawauchi H.;

Harginine vasotocin from the pituitary gland of the lamprey (Petromyzon marinus): isolation and amino acid sequence.";

Gen. Comp. Endocrinol. 70:152-157(1988).

-!- FUNCTION: ANTIDIURETIC HORMONE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DISULFID MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Petromyzon marinus (Sea lamprey).

Bukaryota; Metazoa; Chordata; Craniata;

Actinopterygii; Neopterygii; Teleostei;

Cypriniformes; Cyprinidae; Cyprinus.

NCBI_TaxID=7962, 7757;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               _CYPCA
                                                                                                                                                                                                                                                                                                                        DISULFID
                                                                                                                                                                                                                                                                                                                                                                                             Pfam;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SPECIES=P.marinus; TISSUE=Pituitary; MEDLINE=88225976; PubMed=3371648;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SPECIES=C.carpio; TISSUE=Pituitary;
Acher R., Chauvet J., Chauvet M.-T., Crepy D.;
"Characterization of neurohypophyseal hormones from a fresh water bony fish, the carp (Cyprinus carpio). Comparison with hormones from sea water bony fishs.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Cyprinus carpio (Common carp),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Vasotocin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-NOV-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Hormone;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PROSITE;
                                                                                                                                                                                                                                                                                                                                                                      PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2 PRG 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      7
                                                                                                                                 PRG
                                                                                      PRG
                                                                                                                                                                                                                                                                                                                                                                                                                                  B61364; B61364.
S06375; S06375.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     328495; B28495.
rPro; IPR000981;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRG
                                                                                                                                                                                                                                                                                                                                                                                        Pro; IPR000981; Neurhypophys_horm. Pr00220; hormone4; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PF00220; hormone4; 1.
FE; PS00264; NEUROHYPOPHYS_HORM;
                                                                                                                                                                         ω
                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity 3; Conserv
                                                                                                                                 4
                                                                                      φ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                Amidation.
                                                                                                                                                                                                                                                                                                                                                                  PS00264; NEUROHYPOPHYS_HORM; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Amidation.
                                                                                                                                                                                                                                                                                    ဖ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (Rel.
(Rel.
(Rel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                  AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Physiol. 14:245-254(1965).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BELONGS TO THE VASOPRESSIN/OXYTOCIN FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                20, Created)
20, Last sequence 32, Last annotations.
                                                                                                                                                                                                                                                                                  1053
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1031 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         29.5%; 5c.
100.0%; Pr
                                                                                                                                                                                           29.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Neurhypophys_horm
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Last sequence up
                                                                                                                                                                                                                                                                                    ¥.
                                                                                                                                                                                           .08;
                                                                                                                                                                    Score 18; DB
Pred. No. 1e+
0; Mismatches
                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                             AMIDATION.
17EB176EB456D04B CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AMIDATION.
17EB176EB4540050
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 18;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 1;
1e+05;
                                                                                                                                                                                           1e+05;
                                                                                                                                                                                                                 DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Euteleostei;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Vertebrata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A
A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CRC64;
                                                                                                                                                                       0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
                                                                                                                                                                                                             Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 9;
                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ostariophysi;
                                                                                                                                                                    0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0,
                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
```

```
THYF_PIG
                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT
                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-OCT-1996
15-JUL-1998
15-JUL-1999
                         PIR;
                                                                                                                                                                                                               THYE_FIG STANDARD; PRT; 9 AA. P01255; 21-JUL-1986 (Rel. 01, Created) 21-JUL-1986 (Rel. 01, Last sequence update) 21-JUL-1986 (Rel. 01, Last annotation update)
 SEQUENCE
                                                            from pig serum. II. Amino acid sequ
J. Biol. Chem. 252:8045-8047(1977)
                                                                      Pleau J.-M., Dardenne M., Blouquit Y., Bacl
"Structural study of circulating thymic fau
from pig serum. II. Amino acid sequence.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             dog heart proteins.".
Electrophoresis 18:2795-2802(1997).
FUNCTION: TRANSFER OF ELECTRONS FROM NADH TO THE RESPIRATORY
CHAIN. THE IMMEDIATE ELECTRON ACCEPTOR FOR THE ENZYME IS BEL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        15-JUL-1998 (Rel. 36, Last sequ
15-JUL-1999 (Rel. 38, Last anno
NADH-ubiquinone oxidoreductase
(EC 1.6.99.3) (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUHM_CANFA P49820;
                                                                                                                                                                 Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                           Sus scrofa
                                                                                                                                                                                                         Thymic factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Oxidoreductase; NAD; Ubiquinone; Mitochondrion; NON_TER 11 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=98163340; PubMed=9504812;
Dunn M.J., Corbett J.M., Wheeler C.H.;
"HSC-2DPAGE and the two-dimensional ge
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                 -!- MISCELLANEOUS:
                                                                                                                MEDLINE=78026571; PubMed=914862;
                                                                                                                               SEQUENCE
                                                                                                                                                     NCBI_TaxID=9823;
                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PROSITE; PS01099;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HSC-2DPAGE; P49820; DOG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         <del>;</del>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TISSUE=Heart;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=9615;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Canis familiaris
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NDUFV2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro;
                                                                                                                                                                                                                                                                                                                                                    4 GGSVLV
                                                                                                                                                                                                                                                                                                                                                                                                  Local
                                                                                                                                                                                                                                                                                                                                       w
                  MASCELLANEOUS: THE BIOLOGICAL SOURCE(S) AND PHYSIOLA ACTIVITIES OF THIS PEPTIDE HAVE NOT BEEN DETERMINED, A01523; YFPG.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CATALYTIC ACTIVITY: NADH + ubiquinone = NAD(+) + ubiquinol. COFACTOR: 2FE-2S IRON-SULFUR CLUSTER N 1B.
SUBUNIT: COMPLEX I IS COMPOSED OF ABOUT 40 DIFFERENT SUBUNITHIS IS A COMPONENT OF THE FLAVOPROTEIN FRACTION.
SUBCELLULAR LOCATION: MATRIX AND CYTOPLASMIC SIDE OF THE
                                                                                                                                                                                                                                                                                                7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MITOCHONDRIAL INNER MEMBRANE. SIMILARITY: BELONGS TO THE CO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CHAIN. THE IMMEDIATE ELECTRON ACCEPTOR FOR THE ENZYME IS BE TO BE UBIQUINONE. COMPONENT OF THE FLAVOPROTEIN-SULFUR (FP) FRAGMENT OF THE ENZYME.
                                                                                                                                                                                                                                                                                                                                    GGALFV
                                                                                                                                                                                                                                                                                                                                                                                    Similarity
3; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IPR002023; Complex1_24kD.
9 AA;
                                                                                                                                                                                           (Pig).
                                                                                                                                                                                                                                                                                                                                                                                                                                                   11 AA;
                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                          و.
                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (Dog).
876
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPLEX1_
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    36, Last sequence update)
38, Last annotation update)
xidoreductase 24 kDa subunit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            34, Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                     1099 MW;
                                                                                                                                                                 Chordata; Craniata; Vertebrata; Cetartiodactyla; Suina; Suidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Carnivora;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Chordata; Craniata; Vertebrata; Carnivora; Fissipedia; Canidae;
                                                                                                                                                                                                                                                                                                                                                                                                  29.5%;
50.0%;
₩.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         24K;
D500B87866C5B33D
                                                                                                                                                                                                                                                                                                                                                                                      2
                                                                                                                                                                                                                                                                                                                                                                                               Score 18;
Pred. No.
          PYRROLIDONE
                                                                                                                                                                                                                                                                                                                                                                                                                                                     267F5369C9C72DD8 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPLEX I
                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PARTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gel electrophoresis database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      11
                                                                                                  Bach
                                                                                                                                                                                                                                                                                                                                                                                                  DB 1;
2.7e+03;
                                                                                      factor:
            CARBOXYLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AA
                                                                                    tor: a
                                                AND PHYSIOLOGICAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              kDa SUBUNIT FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (EC 1.6.5.3)
                                                                                                                                                                                                                                                                                                                                                                                                             Length 11;
                                                                                    peptide isolated
                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Euteleostomi;
Canis.
                                                                                                                                                                   Euteleostomi;
Sus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SUBUNITS
                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BELIEVED
                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   of.
                                                                                                                                                                                                                                                                                                                                                                                    0;
```

```
밁
                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                          SOTO REPRESE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SPR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       V14K_WSSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Ma
Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                   MYCIT
                                                                                                                                                                                                                                             RS7_MYCIT
P33564;
01-FEB-1994
01-FEB-1994
01-FEB-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 P82006;
16-OCT-2001 (Rel. 4
16-OCT-2001 (Rel. 4
16-OCT-2001 (Rel. 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          16-OCT-2001 (Rel. 40, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
14.5 kDa structural polyprotein (Fragment).
White spot syndrome virus (WSSV).
        This SWISS-PROT entry is copyright. It is produced through a collab between the Swiss Institute of Bioinformatics and the EMBL outst the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for con
                                                                      Nucleic Acids Res. 21:1039-1039(1993).
-!- FUNCTION: PROTEIN S7 BINDS SPECIFICALLY
16S RIBOSOMAL RNA (BY SIMILARITY).
-!- SIMILARITY: BELONGS TO THE S7P FAMILY OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Viruses; Unassigned viruses.
NCBI_TaxID=92652;
                                                                                                                                                 SEQUENCE FROM N.A. MEDLINE-93197130; PubMed-8451173;
                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  virus."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Wang Q., Poulos B.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STRAIN-South Carolina;
 entities
                                                                                                                   Mycobacterium
                                                                                                                            Nair J., Rouse D.A., Morris S.L.; "Nucleotide sequence analysis of the ribosomal
                                                                                                                                                                                Actinomycetales;
NCBI_TaxID-1767;
                                                                                                                                                                                                    Bacteria; Firmicutes;
                                                                                                                                                                                                                Mycobacterium intracellulare
                                                                                                                                                                                                                                      30S
                                                                                                                                                                                                                                                                                                                                                                                                                                                     NON_TER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Arch.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            V14K_WSSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "Protein analysis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local
                                                                                                                                                                                                                                                                                                                                             w
                                                                                                                                                                                                                                                                                                                                                                ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                σ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Match
                                                                                                                                                                                                                                    ribosomal
                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                             FUNCTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RGGS
:|||
QGGS
                                                                                                                                                                                                                                                                                                                                                               RGG 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Virol. 145:263-274(2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
3; Conserv
                                                                                                                                                                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                            u
requires a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     σ
                                                                                                                                                                                                                                                                                                                                                                                                                                         12 AA;
                                                                                                                                                                                                                                              (Rel.
(Rel.
(Rel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                   : STRUCTURAL COMPÓNENT OF 12 12
                                                                                                                                                                                                                                   protein
                                                                                                                   intracellulare.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STANDARD;
                                                                                                                                                                                                                                                                                        STANDARD;
                                                                                                                                                                                          Corynebacterineae; Mycobacteriaceae; Mycobacterium
                                                                                                                                                                                                                                              28,28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            of geographic isolates
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PubMed-10752552;
.T., Lightner D.V
                                                                                                                                                                                                                                                                                                                                                                                                                                         1242 MW;
license agreement
                                                                                                                                                                                                                                                                                                                                                                                               27.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   27
75
                                                                                                                                                                                                                                  Last sequence update)
Last annotation updat
S7 (Fragment).
                                                                                                                                                                                                     Actinobacteria; Actinobacteridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Created)
                                                                                                                                                                                                                                                                    Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .9%;
                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                              Score 17;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 17;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                         24B8DE4FFD21A338 CRC64;
                                                                                                                                                                                                                                                                                        PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                             THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            12
(See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                              update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 1;
1e+05;
                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                               DB 1; L
4.2e+03;
                                                                                                                                                                                                                                                                                        A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ö,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ĄΑ
                                                                 OF RIBOSOMAL PROTEINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                            VIRION
                                                                                             TO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           shrimp white spot syndrome
                                                                                                                                                                                                                                                                                                                                                                                     0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
                                                                                                                             S12
                                                                                               PART
                                                                                                                                                                                                                                                                                                                                                                                                        Length 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                            gene
                                                                                               QF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9;
                                                                                               THE
                                                                                                                             of
f
                                           a collaboration -
MBL outstation -
                                                                                               ω
                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0
                                        outstation
                                                                                               END
                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
           commercial
                                                                                                Q
                      no
                                9
                   way
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0
                                                                                                                                                                                                                                                                                                                                                                                    0;
```

```
RESULT 11
CONO_CONGE
ID CONO_CONGE
AC P05486;
DT 01-NOV-1988
DT 01-NOV-1988
                                                                                B
                                                                                                  δ.
                                                                                                                                                                        RESULT
TKNA_SC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local
                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                      TKNA_SCYCA
TKNA_SCYCA
P41333;
01-FEB-1995
01-FEB-1995
30-MAY-2000
 P05486;
01-NOV-1988
01-NOV-1988
                                                                                                                                                                                                                                                                                                     peptides
Eur. J. B
-!- FUNCT
                                                                                                                                                                        MOD_RES
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     INIT_MET
NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                          Scyllorhinus canicula (Spotted dogfish) (Spotted catshark). Eukaryota; Metazoa; Chordata; Cranlata; Vertebrata; Chondrichthyes; Elasmobranchii; Galeomorphii; Galeoidea; Carcharhiniformes; Scyllorhinidae; Scyllorhinus. NCBI_TaxID=7830;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     or send an email to license@isb-sib.ch).
                                                                                                                                                                                  Tachykinin; Neuropeptide; Amidation; MOD_RES 11 11 AMIDATIO
                                                                                                                                                                                                              Pfam; PF02202; Tachykinin; SMART; SM00203; TK; 1.
                                                                                                                                                                                                                                 PIR; S33300; S33300.
InterPro; IPR003580; Protachykin
InterPro; IPR002040; Tachykinin.
                                                                                                                                                                                                                                                                                                            Waugh D., Wang Y., Hazon N., Balment R.J., Conlon J.M.; "Primary structures and biological activities of substance-P-related peptides from the brain of the dogfish, Scyliorhinus canicula."; Eur. J. Biochem. 214:469-474(1993).
                                                                                                                                                                                                                                                                                                                                                      TISSUE=Brain;
MEDLINE=93292508; PubMed=7685693;
                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                             Substance
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PIR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL; L08171; AAA25376.1;
                                                                                                                                                                                                       PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ribosomal protein; rRNA-binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PROSITE;
                                                                                Ν
                                                                                                   2 PRGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 PRKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 N
                                                                                                                                                                                                                                                               SIMILARITY: BELONGS TO THE TACHYKININ FAMILY
                                                                                                                                                                                                                                                                                          FUNCTION: TACHYKININS ARE ACTIVE PEPTIDES WHICH EXCITE NEURONS, EVOKE BEHAVIORAL RESPONSES, ARE POTENT VASODILATORS AND
                                                                                                                                                                                                                                                                          MUSCLES
                                                                                                                                                                                                                                                                                 SECRETAGOGUES, AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRGG
                                                                                PRPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           $35538; $35538.
rPro; IPRO00235; Ribosomal_$7
ITE; PS00052; RIBOSOMAL_$7; P.
                                                                                                                       Similarity
3; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                      PS00267; TACHYKININ; 1.
                                                                                                    ഗ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ហ
                                                                                Ç
                                                                                                                                                                        11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                     (Rel. (Rel. (Rel.
 (Rel.
                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AA;
                                                                                                                                                                        AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                œ O
                                STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STANDARD;
 09,
                                                                                                                                                                                                                                                                                                                                                                                                                                                      31,
39,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      850
                                                                                                                                                                       1278 MW;
                                                                                                                                                                                                                                            Protachykinin
                                                                                                                                  26
75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               26
75
 Last sequence update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Last sequence update)
Last annotation updat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MW.
            Created)
                                                                                                                                                                                                                                                                                  CONTRACT
                                                                                                                                 .08;
                                                                                                                                          . 28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              . 28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      63276DC768732417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 16; DB 1; Pred. No. 1e+05; 0; Mismatches
                                                                                                                        0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                       Pred. No. 5.7
                                                                                                                                        Score 16;
                                                                                                                                                                        AMIDATION.
214860DEC9D6D867
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ΒÝ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRT;
                                PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PARTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SIMILARITY
                                                                                                                                                                                                                                                                                  (DIRECTLY
                                                                                                                                                                                           Neurotransmitter
                                                                                                                                                                                                                                                                                                                                                                                                                                                      update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              11
                                9
                                                                                                                                          DB 1;
                                                                                                                                .7e+03;
                                ۶
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ₹
                                                                                                                                                                                                                                                                                  OR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CRC64
                                                                                                                                                                                                                                                                                  INDIRECTLY)
                                                                                                                                                                        CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ۲.
                                                                                                                                          Length 11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length
                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                  MANY SMOOTH
                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                        Gaps
                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
```

```
RESULT
MGMT_BC
ID MG
AC PO
DT 0:
DT 0:
DT 0:
DT 0:
DT 0:
GN Mi
GN Mi
             SOTTE REPORTED TO SOLUTION OF THE RESERVE OF THE RE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local
NUCLEIC ACIDS RES. 18:17-21(1990).

NUCLEIC ACIDS RES. 18:17-21(1990).

TRANSFERRING THE ALKYL GROUP AT THE 0-6 POS RESIDUE IN THE ENZYME. THIS IS A SUICIDE RE IRREVERSIBLY INACTIVATED.

-!- CATALYTIC ACTIVITY: DNA (containing 6-0-met [protein]-L-cysteine = DNA (without 6-0-met S-methyl-L-cysteine = DNA (without 5-methyl-L-cysteine).

-!- SIMILARITY: WITH SEGMENTS OF E.COLI ADA AND WHICH ENCOMPASS THE ALKYL-ACCEPTOR RESIDUES InterPro; IPRO01497; Methyltransf_1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MGMT_BOVIN
P29177;
01-DEC-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DISULFID
MOD_RES
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-DEC-1992 (Rel. 24, Created)
01-DEC-1992 (Rel. 24, Last sequence update)
01-DEC-1995 (Rel. 34, Last annotation update)
01-OCT-1996 (Rel. 34, Last annotation update)
Methylated-NNA--protein-cysteine methyltransferase
methylguanine-DNA methyltransferase) (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE-88058932; PubMed-3680228; Cruz L.J., de Santos V., Zafaralla G.C., Gray W.R., Olivera B.M.; "Invertebrate vasopressin/oxytocin homolopeptides from Conus geographus and Conus Jeolius Jeolius Geographus and Conus Geographus and Conus Geographus Geog
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mammalia; Eutheria; Ce
Bovidae; Bovinae; Bos.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PROSITE; PS00264; N
Hormone; Amidation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gray W.R., Olivera B.M., Cruz L.J.;
"Peptide toxins from venomous Conus snails.";
Annu. Rev. Biochem. 57:665-700(1988).
-!- SIMILARITY: BELONGS TO THE VASOPRESSIN/OXYTOCIN FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa; Mollu Neogastropoda; Conoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                        Rydberg B., Hall J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=90174912; PubMed=2308822;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TISSUE-Thymus;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bos taurus (Bovine)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BOVIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PIR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=89024586; PubMed=3052286;
                                                                                                                                                                                                                                                                                                                                                                        methyltransferase."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID-9913;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MGMT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REVIEW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=6491;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LYS-conopressin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-NGV-1995 (Rel.
                                                                                                                                                                                                                                                                                                                                                                                                      *Active site amino acid sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           geographus (Geography cone)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PF00220; hormone4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  L Similarity
2; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PS00264; NEUROHYPOPHYS_HORM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IPR000981; Neurhypophys_horm
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        φ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (Rel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                <u>م</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 6
9
1037
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            32,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Chordata; Craniata; Vertebrata; Euteleostomi; Cetartiodactyla; Ruminantia; Pecora; Bovoidea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                24.68;
                                                                                                                                                                                                                                                                                                                                                                                                                                     Karran P.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Last annotation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MW.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              : Score 15; DB
: Pred. No. 1e+0
1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AMIDATION.
D4FC276EB4540059
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gastropoda; Caenogastropoda;
dae; Conus.
                                                                                                                                                                                                                                                                                                                                                                                                      of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          homologs.
                                                                                                                                                                                                                                                                                                                                                                                                      the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 1;
1e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                            RESIDUES
                                                                                                                                 6-0-methylguanine) 6-0-methylguanine)
                                                                       ADA AND
                                                                                                                                                                                                                                                                                                                                                                                                      bovine O6-methylguanine-DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               straitus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ramilo
                                                                                                                                                                                                                                       IN DNA BY STOICHIOMETRICALLY
-6 POSITION TO A CYSTEINE
IDE REACTION: THE ENZYME IS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Characterization
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C.A.,
                                                                       OGT METHYLTRANSFERASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pecora; Bovoidea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               venoms
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (EC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Zeikus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2.1.1.63) (6-0-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              R.D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              of.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
```

```
BRK_ONCMY
 밁
                                                                                                                                                                                                                                                                                                                         Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SQ FT SQ
                                                                                                                                                                             CXA1_CONIM
                                                                                                                                                                                      RESULT
                                                                                                                                                                                                                                           Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local :
                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                             Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DNA repair;
NON_TER
ACT_SITE
NON_TER
SEQUENCE 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri). Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleost Actinopterygii; Neopterygii; Teleostei; Euteleostei; Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus. NCBI_TaxID=8022;
                                                                        Conus imperialis (Imperial cone).
Eukaryota; Metazoa; Mollusca; Gastropoda;
Neogastropoda; Conoidea; Conidae; Conus.
                                                                                                                 01-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence up
16-OCT-2001 (Rel. 44, Last annotation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation updata)
Lysyl-bradykinin-like.
MEDLINE=94266889; PubMed=8206995; McIntosh J.M., Yoshikami D., Mahe Gray W.R., Olivera B.M.;
                                                                                                                                                                                                                                                                                                                        Bradykinin; Vasodilator. SEQUENCE 10 AA; 1193
                                                                                                                                                                                                                                                                                                                                            FEBS Lett. 334:75-78(1993).

-I- FUNCTION: SMOOTH MUSCLE CONTRACTION. PROBABLY PLAYS A ROLE THIS SYSTEM IN CARDIOVASCULAR REGULATION IN FISH.

-I- SUBCELLULAR LOCATION: Secreted.

-I- TISSUE SPECIFICITY: PLASMA.

-I- SIMILARITY: BELONGS TO THE BRADYKININ FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                    trout plasma FEBS Lett. 3:
                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=94039817; PubMed=8224232; Conlon J.M., Olson K.R.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q9PRZ1;
                                  TISSUE=Venom;
                                           SEQUENCE,
                                                                                                            Alpha-conotoxin ImI.
                                                                                                                                                                                                                                                                                                                                                                                                                        "Purification of a vasoactive peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BRK_ONCMY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PROSITE; PS00374; MGMT; PARTIAL.
                                                                NCBI_TaxID=35631;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity
nes 2; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8 LVTGC 12
                                                                                                                                                                                                                                            2 PRGGSVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5 ILTPC
                                                                                                                                                                                                                        3 PPGWSPL
                                                                                                                                                                CONIM
                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                                                                                                                                   4.
                                           AND SYNTHESIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Transferase;
                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AA.
                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                            8
                                                                                                                                                                  STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      24.6%;
40.0%;
                                                                                                                                                                                                                                                                             24.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MW.
                                                                                                                                                                                                                                                                                                                         MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Methyltransferase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 325171A720476047 CRC64;
                                                                                                                                                                                                                                                                  Score 15; DB
Pred. No. 7.7e
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2
                                                                                                                                                                                                                                                                   0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score
Pred.
           Mahe
                                                                                                                                                                                                                                                                                                                         33C59075A3786777 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GROUP ACCEPTOR (BY
                                                                                                                                update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (Salmo gairdneri).
sta; Vertebrata; Euteleostomi;
          Nielsen
                                                                                                                     update)
                                                                                                                                                                                                                                                                                                                                                                                                                          related
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 1;
le+05;
                                                                                                                                                                12
                                                                                                                                                                                                                                                                             DB 1;
7.7e+03;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                  ₽
                                                                                      Caenogastropoda
                                                                                                                                                                                                                                                                                                                                                                                                                          6
           D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1;
                                                                                                                                                                                                                                                                                       Length 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length
                                                                                                                                                                                                                                                                                                                                                                                                                        lysyl-bradykinin
                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
            Rivier
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0,
                                                                                                                                                                                                                                                                   0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                          from
                                                                                                                                                                                                                                                                   0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0,
```

```
RESULT 15
OXYT_RAJCL
ID OXYT_RA
AC P42994;
                                                                                                                                                                                                                                                                                                                                                                                      20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                          Query Match
Best Local S
Matches 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    J. Med. Chem. 42:2364-2372(1999).

BIND TO THE NICOTINIC ACCTYPTORY (NACHR) AND THUS SITUREST THE NEUROMUSCULAR RECEPTORS (IN FROG BUT NOT IN MICE. IN CONTRAST, IT INDUCES SEIZURES WHEN INJECTED CENTRALLY IN MICE AND RATS. IT TARGET NEURONAL NACHRS IN MAMMALS. BLOCKS HOMOMERIC ALPHA-7 NICOTINIC RECEPTORS WITH THE HIGHEST APPARENT AFFINITY AND HOMOMERIC ALPHA-9 RECEPTORS WITH 8-FOLD LOWER AFFINITY. HAS NO EFFECT ON RECEPTORS COMPOSED OF ALPHA-2/BETA-4, OR ALPHA-3/BETA-4 SUBUNIT COMBINATIONS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WEDLINE-99212205; PubMed-10194298;
MEDLINE-99212205; PubMed-10194298; PubMed-1019489; PubMed-1019489; PubMed-1019489; PubMed-1019489; Pu
                                                                                                                                                                                                                                                                                                                                                                                      MOD_RES
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Maslennikov I.V., Shenkarev Z.O., Zhmak M.N., Ivanov V.T., Methfessel C., Tsetlin V.I., Arseniev A.S.; "NMR spatial structure of alpha-conotoxin ImI reveals a common scaffold in snail and snake toxins recognizing neuronal nicotin acetylcholine receptors."; FEBS Lett. 444:275-280(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              acetylcholine receptor blockade: preferential inhibition of homomeric alpha 7 and alpha 9 receptors."; mol. Pharmacol. 48:194-199(1995).
                                                                                                                                                                                                                                                                                                                                                                                                              DISULFID MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          receptors.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CHARACTERIZATION.
MEDLINE-95379776; PubMed-7651351;
Johnson D.S., Martinez J., Elgoyh
  OXYT_RAJCL P42994; •
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -I- SUBCELLULAR LOCATION: Secreted.
-I- SIMILARITY: BELONGS TO THE ALPH
PDB; 11M1; 15-JUN-99.
PDB; 11M1; 23-APR-99.
PDB; 1CNL; 27-MAY-99.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STRUCTURE BY NMR.

MEDLLNE-99324017; PubMed-10395477;

Gehrmann J., Daly N.L., Alewood P.F., (
"Solution structure of alpha-conotoxin resonance.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE-99158061; PubMed-10050774;
Maslennikov I.V., Shenkarev Z.O.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "NMR solution structure of other conotoxins specific 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 alpha-conotoxin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Postsynaptic neurotoxin; Venom; 3D-structure.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Biochemistry
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "Alpha-conotoxin ImI exhibits subtype-specific nicotinic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     McIntosh J.M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 resonance.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRUCTURE BY NMR.
                                                                                                                                                      Local Similarity hes 2; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              nicotinic acetylcholine receptor ligand of unique specificity,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Biol. Chem.
                                                                                                                                                                                                                                                                                                                                                                                                                 ; 3D-structure.
FID 2
FID 3 1
ES 12 1
                                                                    .
                                                                                                                                                                                                                                                                                                                                                                                         12 AA;
                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                38:3874-3882(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              269:16733-16739(1994).
                             STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                         1357 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                   12
12
                                                                                                                                                                                                                                                                                  24.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Acetylcholine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  alpha-conotoxin ImI and comparison for neuronal nicotinic acetylcholine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  THE ALPHA-TYPE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Elgoyhen A.B., Heinemann
                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                                  Score 15;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                      AMIDATION.
9C29CEA545A4176A CRC64;
                               PRT;
                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Craik D.J.;
n ImI by 1H nuclear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  receptor inhibitor;
                             9
                                                                                                                                                                                                                                                                                                               DB 1;
                                                                                                                                                                                                                                                                                     9e+03;
                             A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CONOTOXIN
                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                          Length 12;
                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Stevens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            nicotinic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           magnetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Amidation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            R.C.,
                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ç
                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                             0;
```

```
B
                                                                      20
                                                                                                                                                Search completed:
Job time: 356 sec
                                                                                                       Query Match
Best Local
                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                         01-NOV-1995 (I
01-NOV-1995 (I
01-NOV-1995 (I
Glumitocin
Raja clavata
                                                                                                                                               DISULFID MOD_RES SEQUENCE
                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa; (
Elasmobranchii; Squa
Rajiformes; Rajidae;
                                                                                                                                                                                         Pfam; PF00220;
PROSITE; PS0026
                                                                                                                                                                                                                       the ray (Raia clavata).";
Biochim. Biophys. Acta 107:393-396(1965).
-i- FUNCTION: ANTIDIURETIC HORMONE.
-i- SIMILARITY: BELONGS TO THE VASOPRESSIN/OXYTOCIN FAMILY
                                                                                                                                                                                                                                                                MEDLINE-66123415; PubMed-5880565;
Acher R., Chauvet J., Chauvet M.-T., Crepy
"Phylogeny of neurophyphyseal peptides: is
glumitocin (Ser 4-Gln 8 ocytocin) present i
                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=7781;
                                                                                                                                                                                                             InterPro; IPR000981; Neurhypophys_horm
                                                                                                                                                                                                                                                                                                             SEQUENCE
                                                   7
                                                                       2 PRG 4
                                                                                           . Similarity
2; Conserv
                                                   9
                                                                                                                                                                                Amidation.
                                                                                                                                                                                          PS00264; NEUROHYPOPHYS_HORM;
                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                (Rel.
(Rel.
(Rel.
                                                                                              Conservative
        October 10,
                                                                                                                                                                                                                                                                                                                                                                           (Thornback ray).
                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                         zoa; Chordata; Craniata; Vertebrata; Chondrichthyes;
Squalea; Hypnosqualea; Pristiorajea; Batoidea;
idae; Raja.
                                                                                                                                                984
                                                                                                       23.0%;
                                                                                                                                                            90
                                                                                                                                                 , WM
                                                                                                                                                                                                                                                                                                                                                                                                Last
Last
                                                                                                                                                                                                                                                                                                                                                                                                                    Created)
          2002,
                                                                                                                                                AMIDATION.
17E9C76EB455B04B
                                                                                                                                                                                                                                                                                                                                                                                                 annotation
                                                                                                                                                                                                                                                                                                                                                                                                         sequence update)
                                                                                             ۲.
                                                                                                      Score 14; DB 1;
Pred. No. 1e+05;
          06:21:20
                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                               update)
                                                                                                                                                                                                                                                                 isolation of a new hormone, t in a cartilaginous fish,
                                                                                                                                                                                                                                                                                        D.;
                                                                                                                                                 CRC64;
                                                                                             0;
                                                                                                                 Length 9;
                                                                                               Indels
                                                                                             0,
                                                                                             Gaps
```

```
Database
                                                                                                                                                                                                                                                       Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                    Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Run
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                               Searched:
                                                                                                                                                                                                                                                                                                             nimum DB
aximum DB
                                                                                                                                                                                                                                                                                                                                                  otal number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               on:
SPTREMBL_19:*

SP_Archea:*

Sp_bacteria

Sp_fungi:*

Sp_human:*

Sp_human:*

Sp_human:*

Sp_mamma

Sp_mamma

Sp_mamma

Sp_mamma

Sp_pha

Sp_pha

10:
Sp_p)

11:
Sp_r

12:
Sp_r

13:
Sp_r

14:
Sp
15:
Sp
17:
                                                                                                                                                                                                                                                                                                           seq
                                                                                                                                                                                                                                                                                                           length: 0
length: 12
                                                                                                                                                                                                                                                                                                                                                                              562222 seqs, 172994929 residues
                                                                                                                                                                                                                                                                                                                                                                                                        BLOSUM62
Gapop 10.0 ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-629-719D-8
61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             October 10,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
                                                                                                                                                                                   sp_archea:*
sp_bacteria:*
sp_fungi:*
                                                                                                                                                                                                                                                                                                                                                                                                                                               XPRGGSVLVTGC 12
  sp_vertebrate:*
sp_unclassified:*
sp_rvirus:*
sp_bacteriap:*
sp_archeap:*
                                                                                                                        sp_organelle:*
                                                                                                                                                              sp_invertebrate:*
                                                                   sp_virus:*
                                                                                 sp_rodent:*
                                                                                         sp_plant:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2002, 06:23:38 ;
                                                                                                                                                                                                                                                                                                                                                                                                        Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Search time 43.8 Seconds (without alignments)
47.396 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                   1842
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIE

Result No.	Score 28 24		Length DB)B	ID 077876 09PS22
 w	21	34.4	10	44	Q96QA7 075811
თ ი	21	34.4	12	4 4	Q13865 Q96P98
8	19 19	31.1 31.1	10 10	4 4	Q9H1I5 Q9P2Z9
9	18	29.5		11	Q63480
10	18	29.5		N	Q9R4M3
: 1	18	29.5		13	Q90Y93
13	18	29.5	12	2 5	002128
14	18	29.5		Ģ	017140
15	18	29.5	12	8	96196
16	18	о л	د.	5	21000

45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17
16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17	17	17	17	17	17	17	17
		٠	•	•	٠	•		•	•	•	•			•	•		•	٠	•							27.9		
11	10	æ	8	œ	œ	8	œ	æ	œ	8	œ	œ	œ	8	œ	8	80	12	12	12	11	11	11	11	11	10	9	8
2	4	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	10	σ	N	11	7	7	7	4	Ν	N	4
Q47451	Q14096	Q9E8P7	Q9E8P8	Q9E8P9	Q9E8Q0	Q9DSN0	Q9DSN1	Q9E8Q1	Q9E8Q2	Q9DSN2	Q9DSN3	Q9DSN4	Q9E8Q3	Q9E8Q5	Q9DSN6	Q9E8Q6	Q9E8Q7	Q93X21	046664	Q46712	Q9QXM6	077906	077893	077892	Q9UCP5	Q52837	Q99193	Q96RN9
Q47451 escherichia	Q14096 homo sapien	Q9e8p7 beet soil-b		beet soil-	beet soil-	beet soil-	Q9dsn1 beet soil·b			beet	Q9dsn3 beet soil-b	beet	Q9e8q3 beet soil-b	Q9e8q5 beet soil-b	beet soil	Q9e8q6 beet soil·b	beet soil	Q93x21 zea mays (m		Q46712 escherichia			077893 oreochromis	oreo	Q9ucp5 homo sapien	Q52837 rhizobium l	pseud	Q96rn9 homo sapien

ALIGNMENTS

```
RESULT
Q9PS22
                                                                               οy
                                                                                                                                                                                    밁
                                                                                                            Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                    O77876 PRELIMINARY; PRT; 11 AA.
O77876;
01-NOV-1998 (TrEMBLrel. 08, Created)
01-NOV-1998 (TrEMBLrel. 08, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
MHC CLASS II B LOCUS 1 (FRAGMENT).
OTEOCHTOMIS niloticus (Nile tilapia) (Tilapia nilotica).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Actinopterygii; Neopterygii; Teleostel; Euteleostei; Neoteleostei;
Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Labroide
Cichildae; Oreochromis.
                                                                                                                                                                                "Linkage relationships and haplotype class II B loci."; Genetics 149:1527-1537(1998).

EMBL; AF049985; AAC41324.1; -.

HON_TER 1 1 11

SEQUENCE 11 AA; 1178 MW; 9AC131FA
                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.

MEDLINE-98315113; PubMed-9649539;
Malaga-Trillo E., Zalteska-Rutczynska
Figueroa F., Sultmann H., Klein J.;
                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=8128;
                                                      4
                                                                                  6
              N
                                                                     SVLVTGC 12
                                                      SYVVTGC 10
                                                                                                               Conservative
                                                                                                                         45.98;
71.48;
                                                                                                                         Score 28; DB 7;
Pred. No. 2e+02;
                                                                                                                                                                                   9AC131FAB2D2DB45 CRC64;
                                                                                                             Mismatches
                                                                                                                                                                                                                                                                    polymorphism among cichlid mhc
                                                                                                                                                                                                                                                                                               Z., McAndrew B., Vincek V.,
                                                                                                             1;
                                                                                                                                        Length 11;
                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                      Labroidei;
                                                                                                            0,
                                                                                                            Gaps
                                                                                                            0;
```

```
RESULT
O75811
ID O'
AC O'
DT O:
DT O:
DT O:
DE E!
                                                                                                                                                                                                                                                                      075811
075811;
075811;
075811;
01-NOV-1998 (TrEMBLrel. 08,
01-NOV-1998 (TrEMBLrel. 06
01-NOV-1998 (TrEMBLrel. 07
FRBB-3 R2 (FRAGMENT).
                                                                                                              망
                                                                                                                               Ş
                                                                                                                                                                                                SO PRE RA
                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local S
Matches 4
                                                                                                                                                           Query Match
Best Local :
                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q9PS22 PRELIMINARY; PRT;
Q9PS22;
Q1-MAY-2000 (TrEMBLrel. 13, Last sequer
O1-MAY-2001 (TrEMBLrel. 17, Last annote
HYDRIN 1', VASOTOCINYL-GLY-LYS.
Xenopus laevis (African clawed frog).
Eukaryota; Metazoa; Chordata; Craniata.
                                                                                                                                                                                                                                                                                                                   Q96QA7;

Q1-DEC-2001 (TrEMBLrel. 19, Created)

Q1-DEC-2001 (TrEMBLrel. 19, Last sequence update)

Q1-DEC-2001 (TrEMBLrel. 19, Last annotation update)

Q1-DEC-2001 (TrEMBLrel. 19, Last annotation update)

Q1-DEC-2001 (TrEMBLrel. 19, Last annotation update)

Q2-DEC-2001 (TrEMBLrel. 19, Last annotation update)

Q2-DEC-2001 (TrEMBLrel. 19, Last annotation update)

Q2-DEC-2001 (TrEMBLrel. 19, Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PROSITE;
SEQUENCE
                                                                                                                                                                                                     Whitehead S.;
Submitted (SEP-2001) to the
EMBL; AL451106; CAC688408.1;
NON_TER 10 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Biochim. Biophys. Acta 1176:143-147(199 InterPro; IPR000981; Neurhypophys_horm. Pfam; PF00220; hormone4; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Iwamuro S., Hayashi H., Kikuyama S.;
"An additional arginine-vasotocin-related
Lys, in Xenopus neurohypophysis.";
Biochim. Biophys. Acta 1176:143-147(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae; Xenopodinae; Xenopus.
                                                                                                                                                                                                                                                                       Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                 Q96QA7
                                                                                                                                                                                                SEQUENCE
                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                             NCBI_TaxID-9606;
                                                                                                                                                                                                                                                                                         Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                  ARHGEF9
                                                                                                                                                                                                                                                                                                            HPEM-2, KIAA0424)) (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE~93200145; PubMed~8452872;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=8355;
                                                                                                                                                                                                                                                                                                                                                                                                                 7
                                                                                                               Çī
                                                                                                                                 w
                                                                                                                                                                                                                                                                                                                                                                                                                                  Ν
                                                                                                                                                                                                                                                                                                                                                                                     ω
                                                                                                                           RGGS 6
                                                                                                                                                                                                                                                                                                                                                                                                                                  PRGG
                                                                                                                                                                                                                                                                                                                                                                                                               PRGG
                                                                                                               RGGS
                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity 100
4; Conservative
                                                                                                                                                  4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PS00264; NEUROHYPOPHYS_HORM; 1.
11 AA; 1238 MW; CC5B57EB176EB456
                                                                                                                                                                                                                                                                                                                                                                                                                                  տ
                                                                                                                                                                                                                                                                                                                                                                                                                 10
                                                                                                              8
                                                                                                                                                                                               10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (TremBLrel. 13, Created)
(TremBLrel. 13, Last sequence update)
(TremBLrel. 17, Last annotation updat
                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                  PRELIMINARY;
                                                                                                                                                                                               ĀΑ;
                                                                                                                                                                                                1122
                                                                                                                                                                                                                                                                      Chordata;
Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           39.3%;
                                                                                                                                                          34.4%;
100.0%
                           08,
                                                                                                                                                                                                W.
                                                                                                                                                            .0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                             . 0%;
                          Last sequence update)
Last annotation update)
                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 24; DB Pred. No. 9.8 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                             Created)
                                                                                                                                                                                                                          EMBL/GenBank/DDBJ
                                                                                                                                                           Score 21;
Pred. No.
                                                                                                                                                                                                39925CB878640043
                                                                                                                                                                                                                                                                       Craniata; Vo
Catarrhini;
                                                                                                                                                                                                                                                                                                                                                                  PRT;
                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                DB ls;
J. 9.8e+02;
O;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               11
                                                                                                                                                                                                                                                                                                                                                                  10
                                                                11
                                                                                                                                                           2.2
2.3
                                                                                                                                                                                                                                                                                Vertebrata;
                                                                                                                                                                                                                                                                                                                                                                  AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ΑA
                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      peptide,
                                                                                                                                                           .9e+03;
                                                                                                                                                                                                                                                                        Hominidae;
                                                                                                                                                                    4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          update)
                                                                                                                                                                                                                           databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CRC64;
                                                                                                                                                  0;
                                                                                                                                                                   Length 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 11;
                                                                                                                                                                                                                                                                                                                     (COLLYBISTIN, PEM-2,
                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       vasotocinyl-Gly-
                                                                                                                                                                                                                                                                                Euteleostomi;
                                                                                                                                                  0
                                                                                                                                                                                                                                                                                                                                                                                                                                                    0,
                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                  0;
                 Qy
                                                                                                                                          뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SQ RETERMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Ma
Best Loc
Matches
                                                                                                                                                                              Matches
                                                                                                                                                                                     Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                          Q13865;
Q13865;
Q1-NOV-1996
Q1-NOV-1996
Q1-DEC-2001
                                                      Q96P98;
01-DEC-2001
01-DEC-2001
01-DEC-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa;
Mammalia; Eutheria;
NCBI_TaxID-9606;
                                                                                           Q96P98
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               C-ERBB-3
                          Eukaryota;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  tissues.
                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local
                                                                                                                                          ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Match
                                                                                                                                                           3 RGGS
                                                                                                                                                                                                Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2 PRGG
                                                                                                              σ
                                                                                                                                                                                                                                                                                                                                                                                                                                                             PKGG
                                                                                                                                          RGGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
3; Conserv
                                                                                                                                                                                     Similarity
                  ; Metazoa;
Eutheria;
                                                                                                                                                            σ
                                                                                                                                                                                                                                                                                                                                                                                                                                                             11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              σı
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AA;
```

```
BETA-KINESIN.
Homo sapiens (Human).
Homo sapiens (Homan).
'arvota, Metazoa; Chordata,
'haria, Primates;
                                                                                                                                                                                                                                                                                                                               MEDLINE-97101110; PubMed-8945637; Chernajovsky Y., Brown A., Jones T.A.; chernajovsky Y., Brown A., Jones T.A.; remover first exon/intron characterization of the human light chain (beta) kinesin gene. DNA Cell Biol. 15:955-974(1996).

EMBL; X69658; CAA49349.1: -.
SEQUENCE 12 AA; 1274 MW; 3FB8D34EE165A5B8
                             CD27-BINDING PROTEIN (FRAGMENT).
Homo sapiens (Human).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TISSUE-OVARIAN CARCINOMA; MEDLINE-98345147; PubMed-Lee H., Maihle N.J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "Isolation and characterization of four alternate c-erbB3 transcripts expressed in ovarian carcinoma-derived cell lines and normal human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         KINESIN LIGHT CHAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Oncogene 16:3243-3252(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    U88358; AAC39858.1;
                                                          (TrEMBLrel. 19, (TrEMBLrel. 19, (TrEMBLrel. 19,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                         Conservative
                                                                                                                       PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PubMed=9681822;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1017
 Chordata;
Primates;
                                                                                                                                                                                                                                                                     34.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 34
75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01,
01,
19,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0.4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WW.
                                                       Last
                                                                                                                                                                                                                                                         0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Created)
Last sequence update)
Last annotation updat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 21; DB
Pred. No. 3.2e
1; Mismatches
                                                                                         Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ۲.
                                                                                                                                                                                                                                                                       Score 21;
Pred. No.
                                                                                                                                                                                                                                                                                                                                  3FB8D34EE165A5B8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            21B236366EB72878
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
Craniata; V
Catarrhini;
                                                                                                                                                                                                                                                         Mismatches
                                                          sequence up
                                                                                                                        12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  12
                                                                                                                                                                                                                                                                       DB 4; I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 4;
3.2e+03,
 Vertebrata;
; Hominidae;
                                                                                                                        À
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  B
                                                          on update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      update)
                                                                                                                                                                                                                                                                                                                                                                             and
                                                                                                                                                                                                                                                                                                                                  CRC64;
                                                                                                                                                                                                                                                         0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CRC64;
                                                                                                                                                                                                                                                                                   Length 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 11;
                                                                                                                                                                                                                                                                                                                                                                                             chromosomal
                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
               Euteleostomi;
                                                                                                                                                                                                                                                         0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0;
                                                                                                                                                                                                                                                                                                                                                                                             location
                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                           0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
```

```
RESULT
OPPZZ9
ID PZZ9
AC QS
DT Q1
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
RT 01
RT
                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SO SO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local S
Matches 4
                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
Matches 4; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                H115
                                                                                                                                                                                                         Q9P2Z9
Q9P2Z9;
01-OCT-2000
       [1]
SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
MEDLINE=91337091; PubMed=1678600;
Humphrey P.A., Gangarosa L.M., Wong A.J.,
Humphrey P.A., Gangarosa L.M., Laerum O.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q9H115;
01-MAR-2001
01-MAR-2001
01-MAR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                             NON_TER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NON_TER
                                                                                                                   Homo sapiens (Human).
Eukaryota; Metazoa; C
Mammalia; Eutheria; F
                                                                                                                                                                             01-OCT-2000
01-OCT-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Characterization of TPA-responsive differential display PCR."; Submitted (JUL-2001) to the EMBL/Ger EMBL; AF401214; AAL02171.1;
                                                                                                                                                               EPIDERMAL GROWTH FACTOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Submitted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Yang Z., Chu J., B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           нвв
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q9H1I5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=9606;
                                                                                                   NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Molecular characterization
 Deletion-mutant epidermal growth factor receptor
                                                                                                                                                                                                                                                                                                                                             տ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         N
                                                                                                                                                                                                                                                                   æ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               7
                                                                                                                                                                                                                                                                                                                 GNVLV 7
                                                                                                                                                                                                                                                                                                                                           GSVLV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VLVTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VLCTSC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          htted (NOV-2000)
AY013300; AAG4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .s.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BETA-GLOBIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
4; Conser
                                                                                                                                                                            ) (TrEMBLrel.) (TrEMBLrel.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          12 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Park Y.J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (TrEMBLrel. 16, (TrEMBLrel. 16, (TrEMBLrel. 16,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    12
                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                      PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                             10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2000) to the AAG46183.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ban G.,
                                                                                                                   Chordata;
Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                 1042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1333 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Chordata;
Primates;
                                                                                                                                                                                                                                                                                                                                                                                        31
80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               66
6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Jung
                                                                                                                                                              15, Create
15, Last:
15, Last:
RECEPTOR
                                                                                                                                                                                                                                                                                                                                                                                      .08;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               . 78;
                                                                                                                                                                                                                                                                                                                                                                                                                                                 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Shi L., Huang X., Lin K., Tao Y.; ion of beta thalassemia in Yunnan, the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Η.Μ.,
                                                                                                                                                                                                                                                                                                                                                                    Score 19; DB Pred. No. 6.4e.
1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Last sequence up
                                                                                                                                                                                                            Created)
                                                                                                                                                                                                                                                                                                                                                                        1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 21; DB Pred. No. 3.5e.

O; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          977A27103ADEA5A1
                                                                                                                                                                                                                                                                                                                                                                                                                                              2210B2A2C732C448
                                                                                                                    Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Craniata; V
Catarrhini;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRT;
                                                                                                                                                            t sequence upon the annotation to annotation to (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Jun
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                genes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 D.Y.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 4,
. 3.5e+03;
2;
                                                                                                                                                                                                                                      10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               10
                                                                                                                                                                                                                                                                                                                                                                                     DB 4;
6.4e+03;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Vertebrata;
i; Hominidae;
                                                                                                                                                                                                                                      A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     on update)
                             Archer G.E., Friedman
                                                                                                                                                                                           update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ë
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Huh
                                                                                                                                                                          update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  U937
                                                                                                                                                                                                                                                                                                                                                                                                                                               CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CRC64;
                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              T.L.,
                                                                                                                                                                                                                                                                                                                                                                                                   Length 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 12
                                            G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                L., Kim
cells u
 'n
                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Euteleostomi;
human
                             Ξ
                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  using
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ĸ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .
H.;
gliomas:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         China.";
                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ordered
                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                         Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                д
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20
```

```
RESULT
Q9R4M3
ID Q9R4M3
AC Q9R4M3
AC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT
Q63480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local S
Matches 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q63480 PRI
Q63480;
01-NOV-1996 (TI
01-NOV-1996 (TI
01-DEC-2001 (TI
TR4-NS ORPHAN F
                                                                                                                                                                                                                                         01-MAY-2000
01-MAY-2000
01-MAY-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Receptor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NCBI_TaxID=10116;
[1]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Receptor.
                                                                                                                                                                         COB1=BACTERIAL SEX PHEROMONE.
Enterococcus faecalis (Strept
Bacteria; Firmicutes; Bacillu
  MEDLINE-95290767; pubMed-7772836;
Nakayama J., Abe Y., Ono Y., Isog
MEDIAtion and structure of the B
COB1, that induces conjugal trans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.

MEDLINE-96198747; PubMed-8612486;

YOShikawa T., Makino S., Gao X.M.,

Detera-Wadleigh S.D.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              effects of type II mutation on Biochem. Biophys. Res. Commun. EMBL; S51343; AAB19486.2; -.
                                                                                                                                                                                                                                                                                                                                 Q9R4M3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Endocrinology EMBL; U59125;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Splice variants of of novel sequences
                                                                                        SEQUENCE.
                                                                                                                                 NCBI_TaxID=1351;
                                                                                                                                                     Enterococcus
                                                                                                                                                                                                                                                                                                           Q9R4M3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NON_TER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8 LVTGC
|: ||
3 LLEGC
                                                                                                                                                                                                                                                                                                                                                                            10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       w
                                                                                                                                                                                                                                                                                                                                                                                                                                              w
                                                                                                                                                                                                                                                                                                                                                                                                                                                              RGGSV
                                                                                                                                                                                                                                                                                                                                                                                                                                            RGGDL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
3; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity 3; Consert
., Abe Y., Ono Y., Isogai A., Suzul
and structure of the Enterococcus
induces conjugal transfer of the J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     12
                                                                                                                                                                                                                                         (TrEMBLrel.) (TrEMBLrel.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (TrEMBLrel. (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                 PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       137:1562-1571(1996).
AAB02827.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          758
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       f rat
in th
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        \begin{array}{c} 10 \\ 1020 \end{array}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    29
60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  31.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       the
                                                                                                                                                                            (Streptococcus faecal Bacillus/Clostridium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ¥.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   . 01, Created)
. 01, Last sequence up
. 19, Last annotation
(FRAGMENT).
                                                                                                                                                                                                                                             13,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TR4 orphan receptor:
he 5'-untranslated re
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WW.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 18; DB Pred. No. 5.6e 1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          672AA87864005350 CRC64
                                                                                                                                                                                                                                         Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                      Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 19; DB
Pred. No. 6.4e
1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        439DEEAEB87B1727
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Rat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRT;
                                                                                                                                                                                                                                                                                                                                 PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     receptor function."; 178:1413-1420(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Xing
                                                                                                                                                                                                  faecalis).
                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    6.4e+03;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB
                                             Suzuki
                                                                                                                                                                                                                                                                                                                               B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    6e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       region
                                                                                                                                                                            group;
  faecalis sex pheromo hemolysin/bacteriocin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       differential expression 
gion and C-terminal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Chuang
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CRC64;
                                             Α.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length
                                                                                                                                                                            Enterococcaceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                    pheromone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
```

```
RESULT
Q90Y93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SO STATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SORT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local 9
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q90Y93;
01-DEC-2001
01-DEC-2001
01-DEC-2001
                  EMBL; AF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NON_TER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL; AF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     plasmids, pOB1 and pYI1.";
Biosci. Biotechnol. Biochem.
SEQUENCE 8 AA; 741 MW; 8
                                                                                                                                                                                                                 East African cassava mosaic virus. Viruses; ssDNA viruses; Geminiviridae; NCBI_TaxID=62079;
                                                                                                                                                                                                                                                                   01-JUN-2001 (TrembLrel 17, 01-JUN-2001 (TrembLrel 17, 01-JUN-2001 (TrembLrel 17, COAT PROTEIN (FRAGMENT)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Kansaku N., Nakada A., Yagi E., 
"Genetic variation of chicken gy 
Submitted (MAY 2001) to the EMBI 
EMBL; AB061722; BAB69037.1; -.
                                                                                                                                                             SEQUENCE FROM N.A. MEDLINE-21103006; PubMed-11172108;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GROWTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q90Y93
                                                                      Uganda.
                                                                                        determinant keys
                                                                                                                             Fauquet
                                                                                                                                              Pita J.S.,
                                                                                                                                                                                                                                                                                                                                             Q997C1;
                                                                                                                                                                                                                                                                                                                                                             Q997C1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID-9031;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Archosauria; Aves;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gallus gallus (Chicken)
                                                                                                           Recombination,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Match
                                                         Gen.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  6 SVLVTG
                                                                                                                                                                                                                                                                                                                                                                                                 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                    7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2 PRG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               N
                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AVLVLG
                                     n. Virol. 82:655-665(2001).
AF230374; AAK26738.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HORMONE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity
3; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
4; Conserv
                                                                                                                               O.
™.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4
                                                                                                                                                                                                                                                                                                                                                                                                                                                    ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 (TrEMBLrel. 19, of the control of 
   11
                                                                                                                                            Fondong
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRELIMINARY;
   AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AA;
                                                                                        pseudorecombination s to the epidemic of
                                                                                                                                            V.N.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Chordata; (Neognathae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   29.5%;
66.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      29.
100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            58
   ¥.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          90
                                                                                                                                          Sangare
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       n. 59:703-705(1995).
83D87732C732CDC2 CRC64;
                                                                                                                                                                                                                                                                                     Created)
Last sequential Last annotation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Created)
Last sequence update)
Last annotation updat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 18;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pred. No. 5.6
l; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 18; I
Pred No. 5
   7751D0695AA86774 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              6841751775A40AAB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Craniata; Vertebrata; Euteleostomi; Galliformes; Phasianidae; Phasiani
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   growth hormone gene.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                     sequence update) annotation updat
                                                                                                                                            Α.,
                                                                                                         and
                                                                                          severe
                                                                                                                                          Otim-Nape
                                                                                                                                                                                                                                                                                                                                                             11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      10
                                                                                                                                                                                                                                     Begomovirus
                                                                                        synergism of geminere cassava mosaic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 13;
9.5e+03;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DΒ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .6e+05;
                                                                                                                                                                                                                                                                                                                                                             A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2;
                                                                                                                                                                                                                                                                                       update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length
                                                                                                                                          G.W., Ogwal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                           geminiviruses
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Phasianinae;
                                                                                          disease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                        s are
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0,
```

```
RESULT QUELTE QU
RESULT
017140
ID 7170
OI
AC 01
DT 01
DT 01
DT 01
DT 01
CT 00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local S
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q02128
Q02128;
Q02128;
Q02128;
Q1-NOV-1996 (TrEMBLrel. 01, Created)
Q1-NAY-1999 (TrEMBLrel. 10, Last sequence update)
Q1-NAY-1999 (TrEMBLrel. 10, Last annotation update)
Q1-NAY-1999 (TREMBLRel. 10, Last annotation update)
HYPOTHETICAL PROTEIN IN HYDA 5' REGION (FRAGMENT).
Desulfovibrio vulgaris (strain Hildenborough)
Bacteria; Proteobacteria; delta subdivision; Desulf
                                                                                                                                                                                                                                                                                                                                                      O17140 PRELIMINARY; PRT; 12 AA. 017140; 01-JAN-1998 (TrEMBLrel. 05, Created) 01-JAN-1998 (TrEMBLrel. 05, Last sequence update) 01-DEC-2001 (TrEMBLrel. 19, Last annotation update PUTATIVE C-MYC HOMOLOG (FRAGMENT).
   Gene
                                                                                                                                                                                                                                                          Crassostrea virginica (Eastern oyster).
Eukaryota; Metazoa; Mollusca; Bivalvia;
Ostreoidea; Ostreidae; Crassostrea.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

MEDLINE-93307640; PubMed-7686524;

Van den Berg W.A.M., Stokkermans J.P.W.G., Van Dongen W.M.A.M.;

"The operon for the Fe-hydrogenase in Desulfovibrio vulgaris"

"The operon for the Fe-hydrogenase in The sequence vulgaris"

"The operon for the Fe-hydrogenase in Desulfovibrio vulgaris"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MAK-1999) to the EMBL; Z15142; CAB37617.1; -. Hypothetical protein.
                                                                                                  Hare M.P., Avise J.C
                                                                                                                             SEQUENCE FROM N.A.
STRAIN-WESTERN NORTH
                                                                                                                                                                                                    NCBI_TaxID=6565;
[1]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Van den Berg W.A.M.;
Submitted (MAR-1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Voordouw G., Brenner S.;
"Nucleotitide sequence of the gene encoding Desulfovibrio vulgaris (Hildenborough).";
Eur. J. Biochem. 148:515-520(1985).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE-85203856;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEMS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (Hildenborough):
expression.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=882
                                                                "Population Structure in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NON_TER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REVISIONS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Voordouw G.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRG
   Genealogies
Biol. Evol.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Microbiol.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RPGDIIIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RGGSVLVT 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
3; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
2; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     29.5%;
nilarity 100.0%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        12 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Lett.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           mapping
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PubMed-3888621;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1261 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               29.5%;
                                                                                                                                ATLANTIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              110:85-90(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .08;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           of
                                                                the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        the transcript
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 18; DB
Pred. No. 1e+(
4; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C831123540BAA9CD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 18; DB 2; L
Pred. No. 1.1e+04;
D; Mismatches 0;
                                                                American Oyster as
                                                                                                                                MILD
                                                                                                                                OYSTER;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 12
1e+04;
                                                                                                                                                                                                                                                                                            Pteriomorphia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               the hydrogenase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 12;
                                                                                                                                                                                                                                                                                                                                                                                           update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Desulfovibrio
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ŋ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           regulation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length
                                                                Inferred
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         12
                                                                                                                                                                                                                                                                                               Ostreoida;
                                                                δq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   from
                                                                   Nuclear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        <u>.</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
```

```
RESULT
Q9GI96
                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş,
Search completed: October Job time: 389 sec
                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                     SO DR RTT RACE RECEIVED TO THE RESERVANT OF THE RESERVANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOFTR
                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
Matches 3; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 29.5
Best Local Similarity 100
Matches 3; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL; AFO
NON_TER
NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q9G196 PRELIMINARY; PRT; 12 AA.
Q9G196;
01-MAR-2001 (TrEMBLrel. 16, Created)
01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
RIBULOSE-1,5-BISPHOSPHATE CARBOXYLASE/OXYGENASE SMALL SUBUNIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
STRAIN-NEP127;
Phillips N.E., Smith C.M., Morden C.W.;
Phillips N.E., Smith C.M., Morden C.W.;
"Testing the systematics of the genus Sargassum (Fucales, Phaeophyceae) with the Rubisco operon.";
Submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases.
EMBL; AF244344; AAF98114.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
STRAIN-NEP127;
Phillips N.E.;
"Molecular phylogenetic analysis of the pan-pacific genus Sargassum (Fucales, Phaeophyceae).";
Thesis (1998), University of Hawaii.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sargassum polycystum.
Chloroplast.
Eukaryota; stramenopiles; Phaeophyceae;
Sargassum.
                                                                                                                                                                                                                                                                                                                                                                                                               NON_TER 12 12
SEQUENCE 12 AA; 1379 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                Chloroplast.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NCBI_TaxID=127578;
[1]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2 PRG 4
|||
7 PRG 9
                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              15
                                                                                                                                                    ω
                                                                                                                                                                                           LVTGC 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AF024522; AAB82269.1;
ER 1 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          12 AA; 1334 MW; FF6312ABFE1775AA CRC64;
                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   29.5%; Sur
100.0%; Prr
                              10,
                                                                                                                                                                                                                                                                                            29.5%;
                           2002, 06:23:38
                                                                                                                                                                                                                                                                 0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 18; DB 5; L
Pred. No. 1.1e+04;
0; Mismatches 0;
                                                                                                                                                                                                                                                                                            Score 18; DB 8;
Pred. No. 1.1e+04;
                                                                                                                                                                                                                                                                                                                                                                                                                  373D121250CEB867 CRC64;
                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Fucales;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0; Indels
                                                                                                                                                                                                                                                                                                                    Length 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sargassaceae;
                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
```

This Page Blank (uspto)

```
Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence:
       55
7
11
11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             n DB seq length: 0 m DB seq length: 12
                                                                                                                                                                                                                                                                                                                            Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                    Score
     288
288
288
288
288
288
                                                                                                                                                                                                                                Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A_Geneseq_032802:*

| SIDSI/gcgdata/geneseq/geneseqp-embl/AA1980.DAT:*
| SIDSI/gcgdata/geneseq/geneseqp-embl/AA1981.DAT:*
| SIDSI/gcgdata/geneseq/geneseqp-embl/AA1982.DAT:*
| SIDSI/gcgdata/geneseq/geneseqp-embl/AA1983.DAT:*
| SIDSI/gcgdata/geneseq/geneseqp-embl/AA1983.DAT:*
| SIDSI/gcgdata/geneseq/geneseqp-embl/AA1984.DAT:*
| SIDSI/gcgdata/geneseq/geneseqp-embl/AA1986.DAT:*
| SIDSI/gcgdata/geneseq/geneseqp-embl/AA1987.DAT:*
| SIDSI/gcgdata/geneseq/geneseqp-embl/AA1987.DAT:*
| SIDSI/gcgdata/geneseq/geneseqp-embl/AA1987.DAT:*
| SIDSI/gcgdata/geneseq/geneseqp-embl/AA1987.DAT:*
| SIDSI/gcgdata/geneseq/geneseqp-embl/AA1987.DAT:*
| SIDSI/gcgdata/geneseq/geneseqp-embl/AA1987.DAT:*
                                                                                                                                                                                                                                                                                                                                                                                                          10:
11:
12:
13:
14:
14:
15:
16:
16:
17:
18:
19:
20:
21:
   83.6
73.8
73.8
73.8
73.8
73.8
745.9
45.9
45.9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 XPRGGSVLVTGC 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-629-719D-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             747574 seqs, 111073796 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              October 10, 2002, 06:16:24;
                                                                                                                                                                                                                                                                                                                                                                                                  SIDS1/gcgdata/geneseq/geneseqp-emb1/AA199.DAT:

SIDS1/gcgdata/geneseq/geneseqp-emb1/AA199.DAT:

SIDS1/gcgdata/geneseq/geneseqp-emb1/AA199.DAT:

SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1991.DAT:

SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1992.DAT:

SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1993.DAT:

SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1993.DAT:

SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1995.DAT:

SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1995.DAT:

SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1997.DAT:

SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1998.DAT:

SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1990.DAT:

SIDS1/gcgdata/geneseq/geneseqp-emb1/AA2000.DAT:

SIDS1/gcgdata/geneseq/geneseqp-emb1/AA2000.DAT:

SIDS1/gcgdata/geneseq/geneseqp-emb1/AA2000.DAT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd
                                                                                                                                                                                                                                    Length DB
       16
116
118
118
119
114
114
                                                                                                                                                                                                                                    IJ
   AAR80117
AAR80117
AAR80116
AAW34098
AAW34101
AAW83406
AAP80452
AAW70457
AAR34037
AAR34037
                                                                                                                                                                                                                                                                                          SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Search time 47.09 Seconds (without alignments) 28.305 Million cell updates/sec
ICAM CD54 (38-48)
ICAM CD54 (37-48)
ICAM CD54 (37-48)
ICAM-1 beta subuni
ICAM-1 beta subuni
Human thioredoxin
Sequence of part o
ICAM-1 peptide fra
Peptide which bind
PKB substrate #26.
                                                                                                                                                                                                                                  Description
```

5	14	ω	12	二	0	39	38	37	36	5	34	ü	32	31			8		95			ũ	22	17	0	9	80	7	6	5	4	ω̈	2
24	25	25	25	25	25	25	25	25	25	25	25	25	25	26	26	26	26	26	26	26	27	27	27	27	27	28	28	28	28	28	28	28	28
9	41.0	<u>ب</u>	۲	۳		÷				41.0												44.3			44.3		5				5		45.9
ر ت	12	12	12	11	10	. 10	10	10	10	10	10	10	9	10	10	10	10	9	9	9	12	10	6	σ	σ	11	10	10	10	10	9	œ	7
14	16	10	10	20	22	.22	22	22	22	21	20	16	19	22	22	22	21	21	14	11	21	19	14	14	14	21	22	22	22	21	21	21	21
AAR34099	AAR72873	AAP91134	AAP91137	AAY42019	AAB57730	AAB72785	AAB72784	AAG85872	AAM50194	AAB03166	AAY06180	AAR74919	AAY20162	AAG86108	AAG85747	AAE06187	AAY87210	AAB09405	AAR31421	AAR03955	AAY54514	AAW57507	AAR34088	AAR34036	AAR34098	AAY63246	AAG96815	AAG96811	AAG96705	AAY63243	632	632	AAY63234
Peptide which bind	Urokinase peptide	Partial sequence o	Partial sequence o	Rheumatoid arthrit	D.teissieri IDM pe	Antibacterial pept	Antibacterial pept	Saccharomyces cere	Monoclonal antibod	Plasmid pBS24Ubenv	scfv 9A4 clone 4H	Urea plasminogen a	Human presenilin I		Saccharomyces cere	Human gene 58 enco	Human secreted pro	is GB vi	Cyclic platelet ag	Cyclic cell adhesi	Human CD4 protein	Molecular mimetic	ç	ç	ç	Protocadherin cell	Human complementar	Human complementar	Human complementar	Protocadherin cell		Се	Protocadherin cell

ALIGNMENTS

RESULT AAR80118

AAR80118 standard; Peptide; 11

Ą

AAR80118;

```
Ney Location/Qualifiers Misc-difference 11
WPI; 1995-373631/48
                                                                                                                                                                       Synthetic
                                                                                                                                                                                           ICAM-1; CD54; intercellular adhesion molecule-1; integrin; LFA-1; leucocyte function-associated antigen; immunosuppressive; MC-1-80.
                                                                                                                                                                                                                                               05-MAR-1996 (first entry)
                  Benedict S, Chan MA,
                                                     19-APR-1994;
                                                                       19-APR-1995;
                                                                                         26-OCT-1995
                                                                                                           WO9528170-A1
                                                                                                                                                                                                                             ICAM CD54 (38-48) peptide MC-1-80.
                                  (UNIV ) UNIV KANSAS
                                                     94US-0229513
                                                                       95WO-US04886
                                                                                                                            /note= "Cys at position 48 of CD54 is at position 11 of MC-1-80".
                  Siahaan TJ,
                  Tibbetts SA;
                                                                                                                                     Gly
```

0

```
RESULT
AAR80117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    XX CCCCCCCCCXXX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
St Local Similarity
Synthetic sub-sequences of ICAM-1 CD54 (AAR80113-24), LFA-1 beta (AAR80109) or LFA-1 alpha CD11a (AAR80111-12) are used to block ICAM/LFA binding interaction by binding to a target protein in a
                                                   Claim 30; Page 42; 64pp; English.
                                                                      Changing peptide reactivity via conjugation with a second pecauses change in conformation of first peptide, pref. LFA-1 ICAM-1 functional domain derived peptide(s)
                                                                                                                           WPI; 1995-373631/48.
                                                                                                                                                  Benedict S, Chan MA,
                                                                                                                                                                        (UNIV ) UNIV KANSAS.
                                                                                                                                                                                                19-APR-1994;
                                                                                                                                                                                                                     19-APR-1995;
                                                                                                                                                                                                                                           26-OCT-1995
                                                                                                                                                                                                                                                                                                  Disulfide-bond
                                                                                                                                                                                                                                                                                                                                   Misc-difference
                                                                                                                                                                                                                                                                                                                                                                      Synthetic
                                                                                                                                                                                                                                                                                                                                                                                        ICAM-1; CD54; intercellular adhesion molecule-1; integrin; LFA-1; leucocyte function-associated antigen; immunosuppressive;
                                                                                                                                                                                                                                                                                                                                                                                                                                   ICAM CD54 (37-48)
                                                                                                                                                                                                                                                                                                                                                                                                                                                            05-MAR-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAR80117;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAR80117 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Synthetic sub-sequences of ICAM-1 CD54 (AAR80113-24), LFA-1 beta CD18 (AAR80109) or LFA-1 alpha CD11a (AAR80111-12) are used to block ICAM/LFA binding interaction by binding to a target protein in a manner that precludes the normal binding reaction between ICAM-1 and LFA-1. Alternatively, the peptide induces a conformational change in the target protein, enhancing the reactivity of a second peptide. The peptides have immunosuppressive appin.
                                                                                                                                                                                                                                                                  09528170-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Changing peptide reactivity via conjugation with a second peptide causes change in conformation of first peptide, pref. LFA-1 and ICAM-1 functional domain derived peptide(s)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            hes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2 PRGGSVLVTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        30; Page 42; 64pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                                                                                                                                                                             94US-0229513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ĀΑ;
                                                                                                                                                                                                                   95WO-US04886
                                                                                                                                                                                                                                                                                                  1..12
                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers
                                                                                                                                                                                                                                                                              /note= "cysteine-cysteine disulfide bond"
                                                                                                                                                                                                                                                                                                                       /note-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   11
                                                                                                                                                                                                                                                                                                                                                                                                                               cyclic peptide RB-1-51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   83.6%;
100.0%;
                                                                                                                                               Siahaan
                                                                                                                                                                                                                                                                                                                     "Ile at
                                                                                                                                                                                                                                                                                                        e at position 37 of CD54 is position 1 of RB-1-51"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    12 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0,
                                                                                                                                               ТJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 51;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                            Tibbetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0.0B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                B 16;
                                                                                                                                             SA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                             peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
                         CD18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CD18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
```

Query Match Best Local s Matches 9

Similarity 9; Conserv

73.8%; 5c. 100.0%; Pr

Score 45; Pred. No.

DB 16

16; 0;

Length 12;

Indels

0

Gaps

0

Mismatches

Conservative

```
RESULT
AAR80116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9999×8
                 LFA-1. Alternation the target p
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local :
                    Synthetic sub-sequences of ICAM-1 CD54 (AAR80113-24), LFA-1 beta CD18 (AAR80109) or LFA-1 alpha CD11a (AAR80111-12) are used to block ICAM/LFA binding interaction by binding to a target protein in a manner that precludes the normal binding reaction between ICAM-1 and LFA-1. Alternatively, the peptide induces a conformational change in the target protein, enhancing the reactivity of a second
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
Sequence
                                                                                                                         Changing peptide reactivity via conjugation with a second peptide causes change in conformation of first peptide, pref. LFA-1 and ICAM-1 functional domain derived peptide(s)
                                                                                                        Claim 30; Page 41; 64pp; English.
                                                                                                                                                                                WPI; 1995-373631/48.
                                                                                                                                                                                                       Benedict S,
                                                                                                                                                                                                                           (UNIV ) UNIV KANSAS.
                                                                                                                                                                                                                                                  19-APR-1994;
                                                                                                                                                                                                                                                                       19-APR-1995;
                                                                                                                                                                                                                                                                                              26-OCT-1995
                                                                                                                                                                                                                                                                                                                   W09528170-A1
                                                                                                                                                                                                                                                                                                                                                               Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                 Synthetic
                                                                                                                                                                                                                                                                                                                                                                             Zey
                                                                                                                                                                                                                                                                                                                                                                                                                         ICAM-1; CD54; intercellular adhesion molecule-1; leucocyte function-associated antigen; immunosupp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ICAM CD54 (37-48)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         05-MAR-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAR80116 standard; Peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAR80116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      manner that precludes the normal binding reaction between ICAM-1 and LFA-1. Alternatively, the peptide induces a conformational change in the target protein, enhancing the reactivity of a second peptide. The peptides have immunosuppressive appln.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2 PRGGSVLVT 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          prggsvlvt 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  h 73.8%; Somilarity 100.0%; 9; Conservative 0;
12
                                                                                                                                                                                                     Chan MA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              12
              peptides have immunosuppressive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                                94US-0229513
                                                                                                                                                                                                                                                                     95WO-US04886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AA;
                                                                                                                                                                                                                                                                                                                                 /note= "Ile at position 37 of CD54 is at position 1 of SC-3-150"
                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                               peptide SC-3-150.
                                                                                                                                                                                                   Siahaan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 45;
Pred. No.
                                                                                                                                                                                                   ŢŢ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                 Tibbetts SA;
                                                                                                                                                                                                                                                                                                                                                                                                                         immunosuppressive;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 16;
0.54;
               appln.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
                                                                                                                                                                                                                                                                                                                                                                                                                                     integrin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                    LFA-1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
```

N

```
RESULT
AAW34101
ID AAW3
XX
AC AAW3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT
AAW34098
                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                    δÃ
                                                                                                                                                                                                                         SSSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                               Вþ
                                                                                                                                                    Query Match
Best Local S
Matches 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       23-APR-1997;
26-APR-1996;
26-APR-1996;
                                                                                                                                                                                                                                               This sequence represents a peptide fragment of the beta subunit of intracellular adhesion molecule-1 (ICAM-1). This sequence, or a fragment of lymphocyte fusion associated antigen-1 (LFA-1), can be used in the peptide composition (A) of the invention, which inhibits the binding of first and second proteins (P1, P2) and comprises at least one peptide that binds to P1 and at least one peptide that binds to P2 and at least one peptide that binds to P3 and attoing for integrins to their specific binding proteins, particularly for treating transplant rejection, allergy and autoimmune disease, specifically rheumatoid arthritis, insulin-dependent diabetes mellitus and multiple sclerosis.
 AAW34101;
                           AAW34101 standard;
                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                      Claim 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                             Composition of peptide(s) that inhibit binding between proteins used for treatment of transplant rejection, auto:immune disease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 1997-549680/50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Benedict S,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         06-NOV-1997.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WO9741149-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ICAM-1; intracellular adhesion molecule-1; inhibitor; integrin binding; lymphocyte fusion associated antigen-1; LFA-1; transplant rejection; allergy; autoimmune disease; rheumatoid arthritis; multiple sclerosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    14-MAY-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAW34098;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAW34098 standard; peptide; 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (UNIV ) UNIV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              24-APR-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ICAM-1 beta subunit based
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     insulin-dependent diabetes mellitus; therapy; beta subunit.
                                                                                                                                                     Local Similarity
nes 9; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                w
                                                                                               w
                                                                                                                          N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4
                                                      ഗ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2 PRGGSVLVT 10
|||||||||
3 prggsvlvt 11
                                                                                            prggsvlvt
                                                                                                                        PRGGSVLVT 10
                                                                                                                                                                                                                                                                                                                                                                                                    Page 18; 50pp; English
                                                                                                                                                                                                                         12 AA;
                                                                                                                                                  73.8%; Score 45; llarity 100.0%; Pred. No. Conservative 0; Mismatc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Chan MA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KANSAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      97US-0844978.
96US-0638437.
96US-0844978.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              97WO-US06799
                           peptide; 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Siahaan TJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         peptide IB-R
                            8
                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Tibbetts SA;
                                                                                                                                                                 DB 18;
0.54;
                                                                                                                                                     0;
                                                                                                                                                                               Length 12;
                                                                                                                                                     Indels
                                                                                                                                                    0;
                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                and
                                                                                                                                                     0;
```

```
RESULT
AAW83406
                                                                                                                                                                                     Q
                                                                                                                                                                                                                                                                           В
Query Match
Best Local S
Matches 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          23-APR-1997;
26-APR-1996;
26-APR-1996;
                                                                                                                                                                                                                                                                                               This sequence represents a cyclic peptide fragment of the beta subunit of intracellular adhesion molecule-1 (ICAM-1). This sequence, or a fragment of lymphocyte fusion associated antigen-1 (LFA-1), can be used in the peptide composition (A) of the invention, which inhibits the binding of first and second proteins (P1, P2) and comprises at least one peptide that binds to P1 and at least one peptide that binds to P2. (A) is used, in vivo or in vitro, to inhibit binding of integrins to their specific binding proteins, particularly for treating transplant rejection, allergy and autoimmune disease, specifically rheumatoid arthritis, insulin-dependent diabetes mellitus and multiple sclerosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         lymphocyte fusion associated antigen-1; LFA-1; transplant rejection; allergy; autoimmune disease; rheumatoid arthritis; multiple sclerosis; insulin-dependent diabetes mellitus; therapy; beta subunit; cyclic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Synthetic.
                      Human thioredoxin reductase C-terminal peptide.
                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 5; Page
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 allergy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Composition of peptide(s) that inhibit binding between proteins used for treatment of transplant rejection, auto:immune disease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 1997-549680/50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Benedict S, Chan MA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (UNIV ) UNIV KANSAS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WO9741149-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Disulfide-bond
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ICAM-1 beta subunit based peptide cIB-C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   14-MAY-1998
                                                                       AAW83406;
                                                                                                AAW83406 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             24-APR-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                              ω
                                                                                                                         σ
                                                                                                                                                        prggsvlvt
                                                                                                                                                                         PRGGSVLVT 10
                                                                                                                                                                                                             . Similarity
9; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                intracellular adhesion molecule-1; inhibitor; integrin binding
                                                                                                                                                                                                                                                                          12
                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                         19;
                                                                                                                                                                                                                                                                          AA;
                                                                                                                                                               11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   97US-0844978
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            96US-0844978
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         96US-0638437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             97WO-US06799
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers 1..12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /note-
                                                                                                                                                                                                                                                                                                                                                                                                                                       50pp;
                                                                                                peptide;
                                                                                                                                                                                                                          73.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "form disulphide bond
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Siahaan
                                                                                                                                                                                                                                                                                                                                                                                                                                        English.
                                                                                                                                                                                                              %; Score 45; DB
%; Pred. No. 0.5
0; Mismatches
                                                                                                11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ŢĮ,
                                                                                                ₿
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Tibbetts
                                                                                                                                                                                                                          DB 18;
0.54;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ç
                                                                                                                                                                                                               0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      create
                                                                                                                                                                                                                                       Length 12;
                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cyclic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               disease
                                                                                                                                                                                                               0;
                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               and
                                                                                                                                                                                                               0
```

Human; thioredoxin reductase; KM-102-derived reductase like factor;

```
8×00000000x8
                                                                                                                                                                                                                                                                                                              RESULT
                                                                                                                                                                                                                                                                                                                                              B
                                                                                                                                                                                                                                                                                                                                                                Q
                                                                                                                                                                                                                                                                                                    AAP80452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                             04-MAY-1987;
01-NOV-1987;
16-FEB-1988;
WPI; 1989-033081/05
                    Springer TA,
                                         (DANA-) DANA
                                                                                                      29-APR-1988;
                                                                                                                                                 AU8815518-A
                                                                                                                                                                                    Lymphocyte recognition; antiinflammatory agent; lymphocyte function associated antigen 1 (LFA-1).
                                                                                                                                                                                                                                                                   AAP80452;
                                                                                                                           10-NOV-1988
                                                                                                                                                                                                                         Sequence of
                                                                                                                                                                                                                                              28-DEC-1990
                                                                                                                                                                                                                                                                                   AAP80452 standard; protein; 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                            The present sequence represents the C-terminal peptide from human thioredoxin reductase (TR). The TR protein is prepared by gene manipulation and has selenocysteine at position 503 of the mature amino acid sequence. The protein has thioredoxin reducing activity. The protein is useful as a preventive and treating agent for arteriosclerosis, diabetes, ischaemic lesions, oedema and many
                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                           other diseases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Example; Page 12; 40pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Preparation of a mammalian seleno-cysteine-containing protein in coli useful in the treatment of arteriosclerosis, diabetes,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TR; KDRF; ischaemic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ischaemic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (SANY ) SANKYO CO LTD.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    12-MAY-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         12-MAY-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              24-NOV-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  JP10309193-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                              Local
                                                                                                                                                                                                                                                                                                                                              ω
                                                                                                                                                                                                                                                                                                                                                               4 GGSVLVTGC 12
                                                                                                                                                                                                                                                                                                            7
                                                                                                                                                                                                                                                                                                                                           gasilqagc
                                                                                                                                                                                                                                                                                                                                                                                    Similarity
5; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               lesions and oedema
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         selenocysteine;
lesion.
                                                                                                                                                                                                                                                                                                                                                                                                                                       11 AA;
                                                                                                                                                                                                                         part of
                                        FARBER CANCER.
                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                   Rothlein R,
                                                                                                                                                                                                                                          (first entry)
                                                           87US-0045963.
87US-0115798.
88US-0155954.
                                                                                                      88AU-0106901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   97JP-0120443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       97JP-0120443
                                                                                                                                                                                                                 human intercellular adhesion molecule-1 (ІСАМ-1).
                                                                                                                                                                                                                                                                                                                                                                                            49.2%;
                   Marlin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               arteriosclerosis; diabetes; oedema;
                                                                                                                                                                                                                                                                                                                                                                               Score 30; DB 20; Pred. No. 1.4e+02; 1; Mismatches 3;
                                                                                                                                                                                                                                                                                     AA
                   SD,
                 Dustin
                                                                                                                                                                                                                                                                                                                                                                                                  Length 11;
                                                                                                                                                                                                                                                                                                                                                                               0,
                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                            0
```

```
RESULT
AAW70875
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                XX CCCCCCCXXX PREST PREST XX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                          02-NOV-1987;
16-FEB-1988;
03-MAY-1988;
28-SEP-1988;
16-MAR-1989;
30-JUN-1989;
22-DEC-1989;
25-OCT-1993;
         Example 18;
                                   Soluble fragments of human inter:cellular adhesion molecule 1 - useful for inhibition of binding of leukocytes in immune respon
                                                                                                                      (DAND )
                                                                                                                                                                                                                                               27-APR-1990;
                                                                                                                                                                                                                                                                      25-OCT-1993;
                                                                                                                                                                                                                                                                                             03-NOV-1998
                                                                                                                                                                                                                                                                                                                   US5831036-A.
                                                                                                                                                                                                                                                                                                                                        Mus musculus
                                                                                                                                                                                                                                                                                                                                                                       inflammation; lymphocyte fur metastasis; binding ligand;
                                                                                                                                                                                                                                                                                                                                                              immune response;
                                                                                                                                                                                                                                                                                                                                                                                       Intracellular adhesion molecule; ICAM-1; LFA-1; immune response
                                                                                                                                                                                                                                                                                                                                                                                                              ICAM-1 peptide fragment possibly recognised by
                                                                                                                                                                                                                                                                                                                                                                                                                                           02-MAR-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAW70875;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAW70875 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ICAM-1 and its functional derivs. are new. Also new are recombinant DNA able to express ICAM-1 or derivs. ICAM-1 is able to bind to a molecule present on the surface of lymphocytes and contains at least one of 17 specified polypeptide sequences (see AAP80441-57). ICAM-1 is a 76-97kD glycoprotein which is a binding partner for LFR-1, and is involved in lymphocyte recognition and adhering to cell surfaces. ICAM-1 contains 5 Ig-like domains.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New inter-cellular adhesion molecule-7, derived antibodies are used for diagnosis and treatment of inflammation and tumours, and for new DNA coding sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 3(1); Page 52;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2 PRGGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 prggs 5
                            organ transplantation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           œ
                                                                           1998-609323/51.
                                                                                                MĽ,
                                                                                                                      DANA
        Column 47;
                                                                                                Marlin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5 AA;
                                                                                                                     FARBER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                                                                                   88US-0155943.
88US-0189815.
88US-0250446.
88US-0324481.
89US-0373882.
89US-0456647.
                                                                                                                                                                                                                                                                                                                                                                               lymphocyte function-associated antigen;
                                                                                                                                          93US-0140554
                                                                                                                                                                                                                         87US-0115798
                                                                                                                                                                                                                                  90US-0515478
87US-0045963
                                                                                                                                                                                                                                                                    93US-0140554
                                                                                                                                                                                                                                                                                                                                                       inflammation; immunosuppression
                                                                                                                    CANCER INST INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Peptide; 5 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                45.9%; Suc
100.0%; Pr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       74pp; English.
    70pp; English
                                                                                             Rothlein R,
                                                                                                                                                                                                                                                                                                                                                                 detection; assay; peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 28;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                           Springer TA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 10;
6.4e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                                                                                                                                LFA-1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                  tumour cell;
polypeptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  etc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0,
```

```
Query Match
Best Local Similarity
"---hes 6; Conserva
 밁
                    20
                                                                                                          SQ CCC XXX P P T XX
                                                                                                                                                                                                                                                                                    8×868888888888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAR34037
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ICAM-1 fragments obtained from recombinant expression of truncated ICAM-1 coding sequences can be used in the control of adhesion events in inflammatory conditions and immune responses. This is achieved by the ICAM-1 fragments binding to and inhibiting the action of Leukocyte surface molecules e.g. LFA-1 which mediate cell-cell adhesion events during immune responses. This inhibition is useful for suppressing immune responses after organ transplantation or skin grafting. Ligands derived from ICAM-1 which are possibly recognised by LFA-1 are described in GENESEQ records AAW70872-W70880.
                                                                                                                                                                                                                                                                                                                         03-OCT-1991;
03-APR-1992;
12-JUN-1992;
                                                                                                                                                                                         Inhibition of CD36 binding to malaria infected erythrocytes admin of CD36 or suitable fragment, antibody etc.; useful in diagnosis and treatment of Plasmodium falciparum malaria
                                                                                                                               The peptide AAR34037 an IRBC. See related
                                                                                                                                                                                                                                                                                                                                                                                                                                          malaria; intercellular adhesion molecule;
endothelial receptor; antibody.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Peptide which binds the ICAM-1 binding site on IRBC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 06-AUG-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAR34037 standard; peptide; 6 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                        Sequence
                                                                                                                                                                  Disclosure; Page 46;
                                                                                                                                                                                                                                         WPI; 1993-134131/16.
                                                                                                                                                                                                                                                               Ockenhouse CF,
                                                                                                                                                                                                                                                                                     (BLOO-) CENT BLOOD RES. (USSA ) US SEC OF ARMY.
                                                                                                                                                                                                                                                                                                                                                                       05-OCT-1992;
                                                                                                                                                                                                                                                                                                                                                                                              15-APR-1993
                                                                                                                                                                                                                                                                                                                                                                                                                    WO9306849-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Immunoadhesin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAR34037;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2 PRGGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          \vdash
           4 GGSVLV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ဖ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        prggs
ggsvlv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity
5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ഗ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               6
                                                                                                        6 AA;
                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A,
                                                                                                                                                                                                                                                                                                                        91US-0769625.
92US-0862708.
92US-0899064.
                                                                                                                                                                                                                                                              Springer TA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Plasmodium falciparum infected
                                                                                                                                                                                                                                                                                                                                                                       92WO-US08483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 45.9%;
100.0%;
                                                         45.9%;
100.0%;
                                                                                                                               is capable of binding patents WO9306848 and
                                                                                                                                                                  62pp;
                                                                                                                                                                  English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 28;
Pred. No.
                                                         Score 28;
Pred. No.
                                                                                                                                                                                                                                                            Staunton
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ore 28; DB 19; red. No. 6.4e+05; Mismatches 0;
                                              Mismatches
                                                                                                                                                                                                                                                              DE;
                                                        DB 14;
6.4e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                       cted erythrocyte; IRBC;
ICAM-1; CD54;
                                                                                                                               the ICAM-1 binding site on WO9306850.
                                             0;
                                                                   Length 6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 5;
                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                      'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
                                             0;
                                                                                                                                                                                                                bу
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
                                             0;
```

```
RESULT 10
AAR34089
ID
                                                                                                                                                                                       Вþ
                                                                                                                                                                                                          Ş
                                                                                                                                           AAW34379
                                                                                                                                                       RESULT
                                                                                                                                                                                                                               Query Match
Best Local S
Matches 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           03-OCT-1991;
03-APR-1992;
12-JUN-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Immunoadhesin; Plasmodium falciparum infected
malaria; intercellular adhesion molecule; ICAN
endothelial receptor; antibody.
                                                                                                                                                                                                                                                                                                          The peptide AAR34089 is capable of binding the ICAM-1 binding an IRBC. The sequence is shown as a pentapeptide GGSVL in the Claims but as the hexapeptide GGSVLV in the sequence listing. See related patents WO9306848 and WO9306849.
                                                                                                                                                                                                                                                                                                                                                                                    Inhibition of ICAM-1 binding to malaria-infected erythrocytes by admin. of ICAM-1 or fragment, antibody etc.; useful in diagnosis or treatment of Plasmodium falciparum malaria
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAR34089;
                          Protein kinase B; PKB; substrate; glycogen metabolism; pancreatic cancer; regulator; protein synthesis; enzyme modulator; type II diabetes;
                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                               Claim 9; Page 49; 67pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 1993-134132/16.
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ockenhouse CF,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       05-OCT-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             15-APR-1993.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 W09306850-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Peptide which binds the ICAM-1 binding site on IRBC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            06-AUG-1993 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAR34089 standard; peptide;
         therapy.
                   regulator; protein synthesis; enzyme modulator; typinsulin-stimulated crosstide kinase; breast cancer;
                                                               PKB substrate #26
                                                                                    04-MAR-1998
                                                                                                                                AAW34379 standard; peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (BLOO-) CENT BLOOD RES. (USSA ) US SEC OF ARMY.
                                                                                                                                                                                   4 GGSVLV
||||||
1 ggsvlv
                                                                                                                                                      11
                                                                                                                                                                                                                                Similarity 6; Conserv
                                                                                                                                                                                                                                                                                      σ
                                                                                                                                                                                       6
                                                                                                                                                                                                          9
                                                                                                                                                                                                                                Conservative
                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           91US-0769625.
92US-0862708.
92US-0899063.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       92WO-US08484
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Springer
                                                                                                                                                                                                                            45.9%; 5c.
100.0%; Pr
                                                                                                                                                                                                                                                                                                                                                                                                                                                     ΤA,
                                                                                                                                                                                                                                Score 28; DB; Pred. No. 6.4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       6
                                                                                                                                 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A
                                                                                                                                 B
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Staunton
                                                                                                                                                                                                                                                                                                                                                                                                                                                       DE
                                                                                                                                                                                                                                DB 14; 1
6.4e+05;
hes 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       rted erythrocyte;
ICAM-1; CD54;
                                                                                                                                                                                                                                                    Length 6;
                                                                                                                                                                                                                                 Indels
                     ovarian
                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                           site
                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                            on
                                                                                                                                                                                                                                 0;
```

```
FH XXX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAY63234
                                                                                                                                                                                                                                                                                                                                          RESULT 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                       Modulation; nonclassical cadherin mediated cell adhesion; CAR; inhibition; cadherin extracellular domain; cell adhesion recognition; OB-cadherin; cadherin-5; cadherin-6; cadherin-7; cadherin-8; cadherin-12; cadherin-14; cadherin-15; Tadherin; PB-cadherin; cadherin related neuronal receptor; LI-cadherin; protocadherin; desmoglein; desmocollin; calcium binding; cancer; tumour; obesity; rheumatoid arthritis; multiple sclerosis; diabetes; metastasis;
   Key
                              Homo sapiens
                                               Synthetic.
                                                                                                                                                                                                         Protocadherin cell adhesion recognition cyclic peptide SEQ ID NO:2718
                                                                                                                                                                                                                                                   02-MAR-2000
                                                                                                                                                                                                                                                                                 AAY63234;
                                                                                                                                                                                                                                                                                                       AAY63234 standard; Peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            catalyse PKB phosphorylation. PKB (an insulin-stimulated crosstide kinase) and its analogues etc. are used to treat disease characterised by abnormal glycogen metabolism and/or protein synthesis, especially type II diabetes and cancer (specifically of breast, pancreas and ovary). The various screening methods are used to identify agents potentially
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     of PKB, its analogues, isoforms, inhibitors, activators and/or functional equivalents for regulating glycogen metabolism and/or protein synthesis is the subject of the invention. This sequence can also be used in a method of the invention for identifying agents that modulate the activity of PKB. It can also be used to screen for modulators of enzymes that
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Use of protein kinase B for regulation of glycogen metabolism and protein synthesis - also peptide substrates for PKB and methods for screening for modulators
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Example 8; Page 58;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 1997-341435/31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Alessi D,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        18-JUL-1996;
20-DEC-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (MEDI-) MEDICAL RES COUNCIL. (UYDU-) UNIV DUNDEE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WO9722360-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          16-MAY-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20-DEC-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   26-JUN-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity
nes 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                     2 prggs 6
                                                                                                                                                                                                                                                                                                                                                                                                                   2 PRGGS 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          sequence represents
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         for treating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Cohen P,
                                                                                                                                                                                                                                                                                                                                                                                                                                             45.9%; Score 28; ilarity 100.0%; Pred. No. Conservative 0; Mismatc
                                                                             disease;
                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AA,
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        96GB-0010272.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        96GB-0015066.
95GB-0026083.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   96WO-GB03186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      98pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         these diseases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Cross
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ts a substrate for protein kinase B (PKB). The use isoforms, inhibitors, activators and/or functional
                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 18;
6.4e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                              0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 7;
                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                           0,
                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
```

```
Ş
                                                                                                                                                                                                                                                                                                  망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cc enhancing delivery of a drug to a tumour in a mammal, inhibiting metastasis of a cancer in a mammal, inhibiting metastasis of a cancer in a mammal, inhibiting cancer in a mammal, enhancing drug delivery to the concern an ervous system, treating a demyelinating neurological disease, concreasing vesopermeability in a mammal, enhancing adhesion of conclassical cadherin-expressing cells, inhibiting synaptic stability in conclassical cadherin-expressing cells, inhibiting synaptic stability in a mammal, or preventing pregnancy in a mammal. They can also be used for ce.g. enhancing or directing neurite outgrowth, facilitating wound conclassing very can also be used for treating adhesion of foreign tissue car in a mammal. They can also be used for treating e.g. psoriasis, and conclassing and concla
                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
Matches 5; Conserv
                            Protocadherin cell adhesion recognition cyclic peptide SEQ ID NO:2721.
                                                                                         02-MAR-2000
                                                                                                                                                                       AAY63237 standard; Peptide; 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    05-MAY-1998;
06-NOV-1998;
20-JAN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           inhibiting adhesion of nonclassical-cadherin expressing cells in a mammal, enhancing delivery of a drug through the skin of a mammal,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    comprising peptides which comprise a nonclassical cadherin cel recognition (CAR) sequence. The MAs can be used for modulating nonclassical cadherin-mediated functions. They can be used for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The present invention describes cadherin modulating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       New cadherin modulating agents, used for modulating nonclassical cadherin-mediated functions for treating e.g. cancers, obesity, rheumatoid arthritis, multiple sclerosis, diabetes or a neurolog.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 84; Page 201; 252pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Blaschuk OW,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (ADHE-) ADHEREX TECHNOLOGIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 08-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Disulfide-bond
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                05-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             11-NOV-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WO9957149-A2
                                                                                                                                                                                                                              13
                                                                                                                                                                                                                                                                                              3 lvtgc
                                                                                                                                                                                                                                                                                                                                           8 LVTGC 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2000-038791/03
                                                                                                                                                                                                                                                                                                  7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         7
                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AA,
                                                                                  (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cadherin-mediated functions.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gour BJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            99US-0234395
99US-0264516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            98US-0187859
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9805-0073040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            99WO-CA00363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   the exemplification of the present invention
                                                                                                                                                                                                                                                                                                                                                                              100.0%; Score 28;
100.0%; Pred. No.
tive 0; Mismatch
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Byers S;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    INC
                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                        DB 21;
6.4e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               They can be used
                                                                                                                                                                                                                                                                                                                                                                                                                         Length 7;
                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         or a neurological
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 agents
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          for e.g.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (MA)
                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          adhesion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ω
```

Modulation; nonclassical cadherin mediated cell adhesion; CAR:

```
Query Match
Best Local 9
                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         05-MAY-1998;
06-NOV-1998;
20-JAN-1999;
                                                                                                                                                                                                                                                                                                                         central nervous system, treating a demyelinating neurological disease, increasing vasopermeability in a mammal, enhancing adhesion of nonclassical cadherin-expressing cells, inhibiting synaptic stability in a mammal, or preventing pregnancy in a mammal. They can also be used for e.g. enhancing or directing neurite outgrowth, facilitating wound healing or reducing scar tissue, or enhancing adhesion of foreign tissue in a mammal. They can also be used for treating e.g. psoriasis, arthritis, age-related macular degeneration, multiple sclerosis and diabetes. The products can also be used for detection and diagnosis and in bioreactors. AAY60592 to AAY64573 represent specifically claimed peptides, and AAY64573 to AAY64573 and AAX33183 to AAX33186 represent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 inhibiting adhesion of nonclassical-cadherin expressing cells in a mammal, enhancing delivery of a drug through the skin of a mammal, enhancing delivery of a drug to a tumour in a mammal treating cancer in a mammal, inhibiting metastasis of a cancer in a mammal, inhibiting angiogenesis in a mammal, inducing apoptosis in a nonclassical cadherin-expressing cell, preventing or treating obesity in a mammal, stimulating blood vessel regression in a mammal, enhancing drug delivery to the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The present invention describes cadherin modulating agents (MA comprising peptides which comprise a nonclassical cadherin cel recognition (CAR) sequence. The MAS can be used for modulating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New cadherin modulating agents, used for modulating nonclassical cadherin-mediated functions for treating e.g. cancers, obesity, rheumatoid arthritis, multiple sclerosis, diabetes or a neurological
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cadherin related neuronal receptor; LI-cadherin; protocadherin; desmocollin; calcium binding; cancer; tumour; obesi rheumatoid arthritis; multiple sclerosis; diabetes; metastasis; neurological disease; cyclic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ₩PI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Blaschuk OW,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              11-NOV-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Disulfide-bond
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OB-cadherin; cadherin-5; cadherin-6; cadherin-7; cadherin-8; cadherin-12; cadherin-14; cadherin-15; T-cadherin; PB-cadherin;
                                                                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   nonclassical cadherin-mediated functions.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (ADHE-) ADHEREX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  08-MAR-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        05-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    W09957149-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       inhibition;
                                                                                                            Local Similarity
les 5; Conser
                                                      8 LVTGC 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          sapiens
lvtgc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2000-038791/03
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         84;
                                                                                                                                                                                                                                                                                                           used
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Page 201;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cadherin
                                                                                                               Conservative
                                                                                                                                                                                                                                                  A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gour BJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            98US-0073040.
98US-0187859.
99US-0234395.
99US-0264516.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        99WO-CA00363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers 1..8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TECHNOLOGIES
                                                                                                                                                                                                                                                                                                        the exemplification
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 252pp; English.
                                                                                                                                        45.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    extracellular domain; cell adhesion recognition;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Byers
                                                                                                            0;
                                                                                                                                                                  Score 28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         s
                                                                                                                                           Pred. No.
                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                        O.
                                                                                                                                     DB 21;
6.4e+05;
                                                                                                                                                                                                                                                                                                        the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              They can be used for e.g.
                                                                                                                                                                                                                                                                                                     present invention
                                                                                                                                                               Length
                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        obesity;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    cell
                                                                                                            0;
                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       adhesion
                                                                                                            0;
```

```
RESULT 14
AAY63240
ID AAY632
mammal, enhancing delivery of a drug through the skin of a mammal, enhancing delivery of a drug through the skin of a mammal, enhancing delivery of a drug to a tumour in a mammal, treating cancer in a mammal, inhibiting metastasis of a cancer in a mammal, inhibiting angiogenesis in a mammal, inducing apoptosis in a nonclassical cadherin-expressing cell, preventing or treating obesity in a mammal, stimulating blood vessel regression in a mammal, enhancing drug delivery to the central nervous system, treating a familiaring drug delivery to the
                                                                                central nervous system, treating a demyelinating neurological disease, increasing vasopermeability in a mammal, enhancing adhesion of nonclassical cadherin-expressing cells, inhibiting synaptic stability in a mammal, or preventing pregnancy in a mammal. They can also be used for e.g. enhancing or directing neurite outgrowth, facilitating wound healing or reducing scar tissue, or enhancing adhesion of foreign tissue in a mammal. They can also be used for treating e.g. psoriasis,
             arthritis, age-related macular degeneration, multiple sclerosis and diabetes. The products can also be used for detection and diagnosis and in bioreactors. AAY60592 to AAY64572 represent specifically claimed peptides, and AAY64573 to AAY64643 and AAZ33183 to AAZ33186 represent
                                                                                                                                                                                                                                                                                                                                               The present invention describes cadherin modulating agents comprising peptides which comprise a nonclassical cadherin recognition (CAR) sequence. The MAs can be used for modulat nonclassical cadherin-mediated functions. They can be used
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New cadherin modulating agents, used for modulating nonclassical cadherin-mediated functions for treating e.g. cancers, obesity, rheumatoid arthritis, multiple sclerosis, diabetes or a neurological
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Modulation; nonclassical cadherin mediated cell adhesion; CAR; inhibition; cadherin extracellular domain; cell adhesion recognition; OB-cadherin-5; cadherin-6; cadherin-7; cadherin-8; cadherin-12; cadherin-14; cadherin-15; T-cadherin; PB-cadherin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      05-MAY-1998;
06-NOV-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                disease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Blaschuk OW,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        08-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                05-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Disulfide-bond
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cadherin related neuronal receptor; LI-cadherin; protocadherin;
desmoglein; desmocollin; calcium binding; cancer; tumour; obesity;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Protocadherin cell adhesion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             02-MAR-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAY63240 standard; Peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (ADHE-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       20-JAN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     11-NOV-1999.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     neurological
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        rheumatoid arthritis; multiple sclerosis; diabetes; metastasis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2000-038791/03
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ADHEREX TECHNOLOGIES
                                                                                                                                                                                                                                                                                                                                                                                                                                            Page 201;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     disease; cyclic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gour BJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  98US-0073040.
98US-0187859.
99US-0234395.
99US-0264516.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                99WO-CA00363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                          252pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Byers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      recognition cyclic peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             s
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      B
                                                                                                                                                                                                                                                                                                                                                                     modulatin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQ
                                                                                                                                                                                                                                                                                                                                                                                      (MA)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ID NO:2724
                                                                                                                                                                                                                                                                                                                                                 ror e.
                                                                                                                                                                                                                                                                                                                                                                                        adhesion
```

0;

```
DEE CONTRACTOR OF THE CONTRACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
Thes 5; Conserve
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sox
The present invention describes cadherin modulating agents (MA) comprising peptides which comprise a nonclassical cadherin cell adhesion recognition (CAR) sequence. The MAS can be used for modulating nonclassical cadherin-mediated functions. They can be used for e.g. inhibiting adhesion of nonclassical-cadherin expressing cells in a mammal, enhancing delivery of a drug through the skin of a mammal, enhancing delivery of a drug through the skin of a mammal, a mander of a drug to a tumour in a mammal, inhibiting analysis of a cancer in a mammal, inhibiting anglogehesis in a mammal, inducing apoptosis in a nonclassical cadherin-expressing cell, preventing or treating obesity in a mammal, stimulating blood vessel regression in a mammal, enhancing drug delivery to the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           05-MAY-1998;
06-NOV-1998;
20-JAN-1999;
08-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                              New cadherin modulating agents, used for modulating nonclassical cadherin-mediated functions for treating e.g. cancers, obesity, cheumatoid arthritis, multiple sclerosis, diabetes or a neurological
                                                                                                                                                                                                                                                                                                                                                                               Claim 84; Page
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Modulation; nonclassical cadherin mediated cell adhesion; CAR; inhibition; cadherin extracellular domain; cell adhesion recognition; OB-cadherin; cadherin-10; cadherin-10; cadherin-10; cadherin-11; cadherin-11; cadherin-12; cadherin-14; cadherin-15; T-cadherin; pB-cadherin; cadherin related neuronal receptor; LI-cadherin; protocadherin; desmoglain; desmoglain; calcium binding; cancer; tumour; obesity; rheumatoid arthritis; multiple sclerosis; diabetes; metastasis; neurological disease; cyclic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Blaschuk OW,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (ADHE-) ADHEREX TECHNOLOGIES INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              05-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       11-NOV-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WO9957149-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Key
Disulfide-bond
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Protocadherin cell adhesion recognition cyclic peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         02-MAR-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAY63243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAY63243 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5 lvtgc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8 LVTGC 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2000-038791/03
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gour BJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Α,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        98US-0073040.
98US-0187859.
99US-0234395.
99US-0264516.
                                                                                                                                                                                                                                                                                                                                                                      201; 252pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           99WO-CA00363.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers
1..10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                45.9%;
100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Byers S;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 28; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 21; LC
3. 6.4e+05;
0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQ ID NO:2727
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
```

```
Query Match
Best Local Similarity
Thehes 5; Conserve
   Db
                                Ş
                                                                                                                                                            central nervous system, treating a demyelinating neurological disease, increasing vasopermeability in a mammal, enhancing adhesion of nonclassical cadherin-expressing cells, inhibiting synaptic stability in a mammal, or preventing pregnancy in a mammal. They can also be used for healing or reducing scar tissue, or enhancing adhesion of foreign tissue in a mammal. They can also be used for treating adhesion of foreign tissue arthritis, age-related macular degeneration, multiple sclerosis and diabetes. The products can also be used for detection and diapnosis and in bioreactors. AAK60592 to AAK64572 represent specifically claimed peptides, and AAV64573 to AAV64643 and AAZ33183 to AAZ33186 represent sequences used in the exemplification of the present invention.
                                                                                                                                                        Sequence
8 LVTGC
                                  12
                                                                                                                                                        10 AA;
                                                                  Conservative
                                                           100.08; F1
0;
                                                                                                  45.98;
                                                                               Score 28;
Pred. No.
                                                              Mismatches
                                                                             DB 21; 1
2.7e+02;
                                                                                               Length 10;
                                                             Indels
                                                             0
                                                           Gaps
                                                           0;
```

Search completed: October 10, 2002, 06:16:25 Job time: 236 sec

```
Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                        Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OM protein - protein search,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                               ŏ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        mum DB
                                                                                                                                                                                                                                                                                                                                                                                               Pred. No.
                                                                                                                                                                                                                                                                                                                              Score
                                                                                                                                                                                                                                                                                                                                                                                   id. No. is the number of results predicted by chance to have a
are greater than or equal to the score of the result being printed,
it is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      length: 0 length: 12
                                                                                                                                                                                                                                                                                                                              Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                              Issued_Patents_AA:*
1: /cgn2_6/ptodata/2/iaa/5A_COMB.pep:*
2: /cgn2_6/ptodata/2/iaa/5B_COMB.pep:*
3: /cgn2_6/ptodata/2/iaa/6A_COMB.pep:*
4: /cgn2_6/ptodata/2/iaa/FCTUS_COMB.pep:*
5: /cgn2_6/ptodata/2/iaa/PCTUS_COMB.pep:*
6: /cgn2_6/ptodata/2/iaa/backfiles1.pep:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     October 10, 2002, 06:20:47; Search time 23.52 Seconds (without alignments) 12.462 Million cell updates/sec
                                    US-09-629-719D-8
61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gapop 10.0 , Gapext 0.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 231628 seqs, 24425594 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 XPRGGSVLVTGC 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                              Length
  using sw
                                                                                                                                                                                                                                                                                                                               DВ
          US-09-187-859-2718
US-09-187-859-2721
US-09-187-859-2724
US-09-187-859-2727
US-09-187-859-2730
US-08-925-002-7
US-09-100-409A-15
US-08-847-844A-38
US-09-187-859-1595
US-09-187-859-1596
US-09-258-754-122
US-09-187-859-1597
US-09-187-859-1597
US-09-187-859-1597
US-09-187-859-1597
US-09-187-859-1597
                                                                                                                                                                        US-08-789-078-9
US-08-752-633-9
PCT-US95-04886-9
US-08-789-078-8
US-08-789-078-8
US-08-752-633-7
US-08-752-633-7
US-08-752-638-7
PCT-US95-04886-8
5284931-12
                                                                                                                                                                                                                                                                                                                                                               SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      model
                                                     Sequence 15, Appl
Sequence 38, Appl
Sequence 1595, Ap
Sequence 1596, Ap
                                                                                                                                                                                                                               Sequence 9, Appli
Sequence 9, Appli
Sequence 9, Appli
Sequence 7, Appli
Sequence 7, Appli
Sequence 7, Appli
Sequence 8, Appli
                                                                                                                                                                          Sequence
Patent No.
                                                                                                                                                                                                                                                                                                                            Description
                     Sequence
Sequence
Sequence
Sequence
                                                                                                     Sequence
Sequence
                                                                                                                            Sequence
Sequence
 Sequence
Sequence
                                                                                                                                                    Sequence
                                                                                                                                                               Sequence
                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                            Sequence
                                                                                                                                                                                                                       Sequence
                      122, App
122, App
1597, Ap
                                                                                                                           8, Appli
5.5284931
2718, Ap
2721, Ap
2724, Ap
2727, Ap
                                                                                                       2730,
7, Ap
                                                                                                    Appli
Appli
, Appl
                                                                                                                                                                                                                       Appli
                                                                                                                                                                                                            Appl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-08-789-078-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 9, Application Patent No. 5843885
                                                                                                                 TELEFAX: 816)474-9057
TELEX: 434-363
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                        STATE: N
                                                                                                                                                                                                                                                                                                                                                                                                STREET:
CITY: K
 ORGANISM:
CELL TYPE:
```

45	44	43	42	41	40	39	38	37	36	3 5	34	ω ω	32	31	30	29	28
23	23	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
37.7	37.7	39.3	39.3	39.3	39.3	39.3	39.3	39.3	39.3	39.3	39.3	39.3	39.3	39.3	39.3	39.3	39.3
7	7	12	12	12	12	12	12	12	12	12	12	11	11	11	10	10	10
ω	ω	Մ	ر.	4	4	ω	w	N	N	N	ν	4	4	4	G	4	ν
US-09-150-141-45	US-09-150-133-45	PCT-US95-04886-15	PCT-US95-04886-14	US-09-344-456-2	US-09-426-680-3	US-08-844-978-6	US-08-844-978-3	US-08-752-633-15	US-08-752-633-14	US-08-789-078-15	US-08-789-078-14	US-09-187-859-1603	US-09-478-479B-26	US-08-602-999A-260	PCT-US95-04886-13	US-09-187-859-1600	US-08-752-633-13
Sequence 45,	Sequence 45,	Sequence 15,	Sequence 14,	Sequence 2, 1	Sequence 3, i	Sequence 6, 1	Sequence 3, i	. Sequence 15,	Sequence 14,	Sequence 15,	Sequence 14,	Sequence 1603	Sequence 26,	Sequence 260,	Sequence 13,	Sequence 1600,	Sequence 13,
Appl	Appl	Appl	App1	Appli	Appli	Appli	Appli	Appl	App1	Appl	Appl	3, Ap	~	, App	Appl	0, Ap	13, Appl

Application US/08789078

ALIGNMENTS

Siahaan, Teruna

Benedict,

Stephen

CORRESPONDENCE ADDRESS:
ADDRESSEE: HOVEY, WILLIAMS,
STREET: 1101 Walnut St. TITLE OF INVENTION: ICAM-1/LFA-1 PEPTIDES FOR INDUCING TITLE OF INVENTION: IMMUNE TOLERANCE NUMBER OF SEQUENCES: 19 APPLICANT: Tibbetts, Kansas City MO Chan, Marcia Scott TIMMONS & COLLINS

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Ve
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/789,078
FILING DATE: 03-FEB-1997
CLASSIFICATION DATA:
APPLICATION NUMBER: 08/29,513
FILING DATE: 19-APR-1994
ATTORNEY/AGENT INFORMATION:
NAME: Collins, John M.
REGISTRATION NUMBER: 2662
REFERENCE/DOCKET NUMBER: 22833
TELECOMMUNICATION INFORMATION:
TELEPHONE: (816,474-9050
TELEPHONE: (816,474-9057 64106 USA Version #1

. 25

SEQUENCE CHARACTERISTICS: LENGTH: 11 amino acids TYPE: amino acid TOPOLOGY: linear NO peptide 9

FRAGMENT TYPE: ORIGINAL SOURCE: MOLECULE TYPE: HYPOTHETICAL: Homo sapiens T-cell internal

CELL LINE: US-08-789-078-9

HL-60

```
밁
                                                Matches
                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-08-752-633-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q
                                                                                                                                                                                                                                                                     ATTORNEY/AGENT INFORMATION:
NAME: COLLINS, John M.
REGISTRATION NUMBER: 2262
REFERENCE/DOCKET NUMBER: 2283
TELECOMMUNICATION INFORMATION:
TELEPHONE: (816)474-9057
TELEFAX: 816)474-9057
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 9, Application US/08752633 Patent No. 5863889
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
                                                                                                                                                                                                                        GENERAL INFORMATION:
                                                                                                                                                     FRAGMENT TYPE:
ORIGINAL SOURCE:
                                                                                                                                                                              MOLECULE TYPE: PO
                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                       SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUMBER OF SEQUENCES: 19
CORRESPONDENCE ADDRESS:
ADDRESSEE: HOVEY, WILLIAMS, TIMMONS & COLLINS
                                                Local Similarity
les 10; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION: ICAM-1/LFA-1 PEPTIDES FOR INDUCING TITLE OF INVENTION: IMMUNE TOLERANCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Benedict, Stephen H. APPLICANT: Siahaan, Teruna
   N
                                                                                                                                              ORGANISM:
                                                                                                                                                                                                     TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: FILING DATE:
                                                                                                                                                                                                                                                                                                                                                            CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CITY: Kansas City
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COUNTRY:
PRGGSVLVTG 11
                      PRGGSVLVTG 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2 PRGGSVLVTG 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2 PRGGSVLVTG 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         64106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ŏ
                                                                                                                                                                                                                          11 amino acids
                                              Conservative
                                                                                                                                          Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 USA
                                                                                                                                                                                                     linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Tibbetts,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Chan, Marcia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                      peptide
                                                                                                                                                                  internal
                                                                                                                                                                                                                                                                                                                                                             514
                                                        83.6%;
                                                                                                                                                                                                                                                                                                                                                                                 US/08/752,633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            83.6%; Score 51; DB 2; 100.0%; Pred. No. 0.013;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Scott
                                                                                                                                                                                                                                                  9
                                            0;
                                                      Score 51;
Pred. No
                                                                                                                                                                                                                                                                                                          22833
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0; Mismatches
                                         Mismatches
                                                    DB 2;
. 0.013;
                                                              Length 11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 11;
                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                      0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                    0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0,
```

```
RESULT 4
US-08-789-078-7
                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                       PCT-US95-04886-9
                                                                                                                                                         Sequence 7, Application US/08789078 Patent No. 5843885
                                                                                                                                                                                                                                                                                                                         Query Match
Best Local S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 3
PCT-US95-04886-9
                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                GENERAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATTORNEY AGENT INFORMATION:
NAME: COllins, John M.
REGISTRATION NUMBER: 26262
REFERENCE/DOCKET NUMBER: 2283:
TELECOMMUNICATION INFORMATION:
TELEPHONE: (816)474-9050
TELEFAX: 816)474-9057
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 9, Application:
                                TITLE OF INVENTION: ICAM-1/LFA-1 PEPTIDES TITLE OF INVENTION: IMMUNE TOLERANCE NUMBER OF SEQUENCES: 19
                                                                           APPLICANT: Benedict, Stephe
APPLICANT: Siahaan, Teruna
APPLICANT: Chan, Marcia
APPLICANT: Tibbetts, Scott
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEX: 434-363
INFORMATION FOR SEQ ID NO:
                       CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Chan, Marcia
APPLICANT: Tibbetts, Scott
TITLE OF INVENTION: ICAM-1/LFA-1 PEPTIDES FOR INDUCING
TITLE OF INVENTION: IMMUNE TOLERANCE
NUMBER OF SEQUENCES: 19
CORRESPONDENCE ADDRESS:
ADDRESSE: HOVEY, WILLIAMS, TIMMONS & COLLINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                 FRAGMENT TYPE:
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MOLECULE TYPE:
HYPOTHETICAL:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US95/04886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                      CELL TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                    2 PRGGSVLVTG 11
                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM:
                                                                                                                                                                                                                                                 2 PRGGSVLVTG 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ENGTH:
                                                                                                                                                INFORMATION:
                                                                                                                                                                                                                                                                                                              10;
                                                                                                                                                                                                                                                                                                          Similarity 100
10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              64106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    11 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Application PC/TUS9504886
                                                                                                                           Benedict, Stephen H.
HOVEY, WILLIAMS, TIMMONS & COLLINS
                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Benedict, Steph
Siahaan, Teruna
                                                                                                                                                                                                                                                                                                                                                                                                     HL-60
                                                                                                                                                                                                                                                                                                                                                                                                                                                             internal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          peptide
                                                                                                                                                                                                                                                                                                                     83.6%; Score 51;
100.0%; Pred. No.
                                                                                                                                                                                                                                                                                                           0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             22833
                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                  DB 5; Length 11; 0.013;
                                                           FOR INDUCING
                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                               Gaps
```

COMPUTER READABLE FORM:

COUNTRY:

MEDIUM TYPE:

Floppy disk

STREET: 1101 Waln

1101 Walnut St.

```
δô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 12 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity
Matches 9; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                         tent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION NAME: 08/229,513
FILING DATE: 19-APR-1994
ATTORNBY/ACENT INFORMATION:
NAME: COllins, John M.
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DDS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
                                                                                                                                   TITLE OF INVENTION: ICAM-1/LFA-1 PEPTIDES FOR INDUCING TITLE OF INVENTION: IMMUNE TOLERANCE NUMBER OF SEQUENCES: 19
CORRESPONDENCE ADDRESS:
ADDRESSEE: HOVEY, WILLIAMS, TIMMONS & COLLINS STREET: 1101 Walnut St.
CITY: Kansas City
                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FRAGMENT TYPE:
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTWARE: PatentIn Release #1.0, Version #1.25 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MOLECULE TYPE: HYPOTHETICAL:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE/DOCKET NUMBER: 22
TELECOMMUNICATION INFORMATION:
TELLEPHONE: (816)474-9050
TELEFAX: 816)474-9057
                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: US/08/789,078 FILING DATE: 03-FEB-1997 CLASSIFICATION: 514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                      COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CELL TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME: Collins, John M
REGISTRATION NUMBER: :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2 PRGGSVLVT 10
                                                                                                                                                                                                                                                                                                                                                                                                                                            ω
                                                                                        64106
                                                                                                                                                                                                                                                                                                                                                       Application US/08789078
                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           12 amino acids
                                                                                                                                                                                                                                                  Tibbetts, Scott
                                                                                                                                                                                                                                                                    Benedict, Stepho
Siahaan, Teruna
Chan, Marcia
                                                                                                        USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         T-cel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HL-60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            internal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           73.8%;
                                                                                                                                                                                                                                                                                                      Stephen H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             26262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 45; DB 2;
Pred. No. 0.13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              22833
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
```

```
Query Match
Best Local Similarity
...thes 9; Conserve
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; CELL TYPE: T-cel; CELL LINE: HL-60 US-08-789-078-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 6
US-08-752-633-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LEUGTH: 12 amino acia-
TYPE: amino
                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 7, Application US/08752633 Patent No. 5863889
                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELECOMMUNICATION INFORMATION:
TELEPHONE: (816)474-9050
TELEFAX: 816)474-9057
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/2
FILING DATE: 19-APR-1994
                           ATTORNEY/AGENT INFORMATION:
NAME: Collins, John M.
REGISTRATION NUMBER: 262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FRAGMENT TYPE: ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATTORNEY/AGENT INFORMATION:
NAME: Collins, John M.
REGISTRATION NUMBER: 262
REFERENCE/DOCKET NUMBER: 22
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                       NUMBER OF SEQUENCES: 1
                                                                                                                                                                                                                                                                                                                     TITLE OF INVENTION: ICAM-1/LFA-1 PEPTIDES FOR INDUCING TITLE OF INVENTION: IMMUNE TOLERANCE
                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MOLECULE TYPE: PO
                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                STREET: LIVE
CTTY: Kansas City
                                                                                     APPLICATION NUMBER: FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE:
                                                                         CLASSIFICATION:
                                                                                                                                                                                                                  COUNTRY:
                                                                                                                                                                                                                                                                           ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2 PRGGSVLVT 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3 PRGGSVLVT 11
                                                                                                                                                                                                      64106
                                                                                                                                                                                                                                                              1101 Walnut St.
                                                                                                                                                                                                                                                                                                                                               Tibbetts, Scott
                                                                                                                                                                                                                                                                                                                                                                             Benedict,
Siahaan, T
                                                                                                                                                                                                                    USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens
                                                                                                                                                                                                                                                                                                                                                              Chan, Marcia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cyclic
                                                                                                                                                                                                                                                                          HOVEY, WILLIAMS, TIMMONS & COLLINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   T-cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           03-FEB-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  internal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  73.8%;
100.0%;
                                                                                                                                                                                                                                                                                                                                                                             Teruna
                                                                                                                                                                                                                                                                                                                                                                                            Stephen H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                08/229,513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US/08/789,078
                                                                                                    US/08/752,633
                            26262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        26262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 45; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          22833
                22833
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
```

0,

TELEFAX:

816)474-9057

0,

```
RESULT 7
US-08-752-633-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
Trahes 9; Conserve
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-08-752-633-7
                                                                                                                                                                    CLASSIFICATION: 514
ATTREMEY/AGENT INFORMATION:
NAME: COllins, John M.
REGISTRATION NUMBER: 26262
REFERENCE/DOCKET NUMBER: 2283
TELECOMMUNICATION INFORMATION:
TELEPHONE: (816)474-9050
TELEPEAX: 816)474-9057
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 8, Application US/08752633 Patent No. 5863889
                                                                                                                                         TELEFAX: 816)474-9057
TELEX: 434-363
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEX: 434-363
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TOPOLOGY: linear MOLECULE TYPE: pepti HYPOTHETICAL: NO FRAGMENT TYPE: inter ORIGINAL SOURCE:
                            FRAGMENT TYPE:
ORIGINAL SOURCE:
                                                                                                                          SEQUENCE CHARACTERISTICS
                                                        MOLECULE TYPE: pe
                                                                                                                                                                                                                                                                                       SOFTWARE: PATENTIN RELL
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE OF INVENTION: ICAM-1/LFA-1 PEPTIDES FOR INDUCING TITLE OF INVENTION: IMMUNE TOLERANCE NUMBER OF SEQUENCES: 19
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Chan, Marcia APPLICANT: Tibbetts, Sco
                                                                                                     LENGTH:
 CELL TYPE:
        ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                            COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                  TYPE: amino acid
TOPOLOGY: cyclic
                                                                                                                                                                                                                                                                                                                                                                                                        COUNTRY: U
                                                                                                                                                                                                                                                                                                                                                                                                                                   STREET: 1101 Walnut St.
CITY: Kansas City
STATE: MO
                                                                                                                                                                                                                                                                                                                                                                           MEDIUM TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CELL TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH: 12 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3 PRGGSVLVT 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2 PRGGSVLVT 10
                                                                                                             12 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                     USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Tibbetts,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Benedict, Stephen
Siahaan, Teruna
                                                                                                                                                                                                                                                                                                                             PatentIn Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens
T-cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HOVEY, WILLIAMS, TIMMONS & COLLINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HL-60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   T-cell
                                                                                                                                                                                                                                                                                                                                                                          Floppy disk
                                         internal
                                                                 peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              internal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             73.8%,
100.0%; Pr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            73.8%; Score 45; 100.0%; Pred. No.
                                                                                                                                                                                                                                                                                                  US/08/752,633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                7:
                                                                                                                                                                                                                 22833
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
```

```
US-08-844-978-7
                                                                                                                                           В
                                                                                                                                                                     δ
                                                                                                                                                                                 Query Match
Best Local Similarity
"hes 9; Conserv
                                                                                                                                                                                                                                                                         ; MOLECULE TYPE: peptide US-08-844-978-4
                           Sequence 7, Application US/08844978
Patent No. 6075004
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-08-844-978-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
""thes 9; Conserv.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CELL LINE: US-08-752-633-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 4, Application US/08844978 Patent No. 6075004
                                                                                                                                                                                                                                                                                                                                                                                                                   CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: COllins, John M.
REGISTRATION NUMBER: 26262
REFERENCE/DOCKET NUMBER: 2476
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
                  APPLICANT:
                                                                                                                                                                                                                                                                                                                SEQUENCE CHARACTERISTICS:
LENGTH: 12 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/844,978
                                                                                                                                                                                                                                                                                                                                                              TELEFAX: 01.
TELEFAX: 434-363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Chan, Marcia
APPLICANT: Tibbetts, Scott
TITLE OF INVENTION: Peptide Compositions Which Induce Immune
NUMBER OF SEQUENCES: 36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                     TOPOLOGY:
                                                                                                                                      3 PRGGSVLVT 11
                                                                                                                                                                   2 PRGGSVLVT 10
                                                                                                                                                                                                                                                                                                                                                                                            TELEPHONE: (816)474-9050
TELEFAX: 816)474-9057
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COUNTRY: U:
ZIP: 64108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADDRESSEE: HOVEY, WILLIAMS, TIMMONS & COLLINS STREET: 2405 Grand Boulevard, Suite 400 CITY: Kansas City
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2 PRGGSVLVT 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3 PRGGSVLVT 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               š
O
Benedict, Steph
Siahaan, Teruna
                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    73.8%; Score 45; DB 2; ilarity 100.0%; Pred. No. 0.13; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Siahaan,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Benedict, Stephen
                                                                                                                                                                                                                                                                                                       linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HL-60
                                                                                                                                                                                                             73.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Teruna
                                                                                                                                                                                                                                                                                                                                                              4
                                                                                                                                                                                               0,:
                                                                                                                                                                                                           Score 45;
; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                     24769-A
                                                                                                                                                                                          core 45; DB 3;
Pred. No. 0.13;
Mismatches
                                                                                                                                                                                                                      Length 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                         0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                         0;
```

APPLICANT: Chan, Mar

Chan, Marcia

```
В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; TOPOLOGY: ci
; MOLECULE TYPE:
US-08-844-978-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PCT-US95-04886-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 7, Application PC/TUS9504886 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: COllins, John M.
REGISTRATION NUMBER: 26262
REFERENCE/DOCKET NUMBER: 2476
TELECOMMUNICATION INFORMATION:
TELECHONE: (816)474-9050
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELEFAX: 816)474-9057
TELEX: 434-363
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE CHARACTERISTICS:
LENGTH: 12 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CORRESPONDENCE ADDRESS:
ADDRESSEE: HOVEY, WILLIAMS, TIMMONS & COLLINS STREET: 2405 Grand Boulevard, Suite 400
                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE OF INVENTION: ICAM-1/LFA-1 PEPTIDES FOR INDUCING TITLE OF INVENTION: IMMUNE TOLERANCE NUMBER OF SEQUENCES: 19
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Benedict, Stephen H. APPLICANT: Siahaan, Teruna
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE OF INVENTION: Peptide Compositions Which Induce Immune NUMBER OF SEQUENCES: 36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Chan, Marcia
APPLICANT: Tibbetts, Scott
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEPHONE: (BIV) - TELEPHONE: (B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CITY: Kansas City
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                COUNTRY: U
                                                                                                                                                                                                                                                                                                                                                                  STATE:
                                                                                                                                                                                                                                                                                                                                                                                              CITY: Kansas City
                                                                                                                                                                                                                                                                                                                                                                                                                                       STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3 PRGGSVLVT 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2 PRGGSVLVT 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              64108
                                                                                                                                                                                                                                                                                                                                                         ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ĕ
                                                                                                                                                                                                                                                                                                                                                                                                                                       1101 Walnut St.
                                                                                                                                                                                                                                                                                                                     USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            circular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HOVEY, WILLIAMS, TIMMONS & COLLINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        73.8%; Score 45; 100.0%; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US/08/844,978
        PCT/US95/04886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
```

```
В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 11
PCT-US95-04886-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PCT-US95-04886-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 8, Applicati
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
                                                                                                              CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
ATTORNEY COLLINS, John M.
NAME: COLLINS, John M.
REGISTRATION NUMBER: 26262
REFERENCE/DOCKET NUMBER: 2283
TELECOMMUNICATION INFORMATION:
TELEPHONE: (816)474-9050
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             INFORMATION FOR SEQ ID NO:
                                                                        INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE/DOCKET NUMBER: 22: TELECOMMUNICATION INFORMATION: TELEPHONE: (816)474-9050
                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FRAGMENT TYPE: ORIGINAL SOURCE:
                                                                                                                                                                                                                                                SOFTWARE: PatentIn Release #1.0, Version #1.25 CURRENT APPLICATION DATA:
                                          SEQUENCE CHARACTERISTICS: LENGTH: 12 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Chan, Marcia
APPLICANT: Tibbetts, Scott
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
 MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IYPOTHETICAL:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                     STREET: 1101
OTTY: Kansas City
                                                                                      TELEPHONE: (010).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CELL TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEX: 434-363
                                                                                                                                                                                                                      FILING DATE:
                                                                                                                                                                                                                                                                                                                                        ZIP: 64106
                                                                                                                                                                                                                                                                                                                                                    COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEFAX:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REGISTRATION NUMBER:
                                                                                                                                                                                                                                   APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                              ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TOPOLOGY:
                                         LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3 PRGGSVLVT 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2 PRGGSVLVT 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Collins, John M.
                         amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Application PC/TUS9504886
                                                                                                                                                                                                                                                                                                                                                                                                1101 Walnut St.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Benedict, Stephen H.
Siahaan, Teruna
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               12 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         816)474-9057
                                                                                                                                                                                                                                                                                                                                                     USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
               cyclic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HL-60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        N<sub>O</sub>
                                                                                                                                                                                                                                                                                                                                                                                                               HOVEY, WILLIAMS, TIMMONS & COLLINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               T-cell
peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        internal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        73.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           IMMUNE TOLERANCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ICAM-1/LFA-1 PEPTIDES FOR INDUCING
                                                                                                                                                                                                                                   PCT/US95/04886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   26262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             7 :
                                                                        œ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 45;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     22833
                                                                                                                                              22833
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 5;
. 0.13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
```

0;

HYPOTHETICAL:

ö

```
PPLICANT: Blaschuk, Orest W.

APPLICANT: Blaschuk, Orest W.

APPLICANT: Gour, Barbara W.

ITILE OF INVENTION: COMPOUNDS AND METHODS FOR MODULATING NON TITLE OF INVENTION: CADHERIN MEDIATED FUNCTIONS

FILE REFERENCE: 100086.407C1

CURRENT APPLICATION NUMBER: US/09/187,859A

CURRENT FILING DATE: 1998-11-06

NUMBER OF SEQ ID NOS: 4052

SOFTWARE: Patentin Ver. 2.0

SEQ ID NO 2718

LENGTH: 7

TYPE: PRT
Ş
                                                                                                     OTHER INFORMATION: Representative cyclic modulating agent based on THER INFORMATION: Protocadherin cell adhesion recognition sequence US-09-187-859-2718
                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                                             US-09-187-859-2718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5284931-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
""thes 9; Conserve
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RPPLICANT: SPRINGER, TIMOTHY A.; ROTHLEIN, ROBERT; MARLIN, STEVEN D.; DUSTIN, MICHAEL L.
TITLE OF INVENTION: INTERCELLULAR ADHESION MOLECULES AND THEIR BINDING LIGANDS
NUMBER OF SEQUENCES: 41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CELL TYPE:
CELL LINE:
PCT-US95-04886-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQ ID NO:12:
LENGTH: 5
                            Matches
                                            Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                  Sequence 2718, Application US/09187859A Patent No. 6358920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SULT 12
4931-12
tent No. 5284931
                                                                                                                                                ORGANISM: Artificial Sequence FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/
FILING DATE: 27-APR-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FRAGMENT TYPE:
ORIGINAL SOURCE:
                                       Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local Similarity
nes 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2 PRGGS 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 PRGGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2 PRGGSVLVT 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3 PRGGSVLVT 11
LVTGC 12
                           Ç,
                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HL-60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      T-cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               internal
                   45.9%; 51
100.0%; Pr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         45.9%; Score 28; DB 6;
100.0%; Pred. No. 1.7e+(
tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              73.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US/07/515,478
                                       Score 28; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 45;
Pred. No.
                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                    DB 4; L
1.7e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1.7e+05;
                                                  Length 7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 12;
                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                  NONCLASSICAL
                     0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0,
                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                   0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0,
```

```
Query Match
Best Local Similarity
"~+~hes 5; Conserv
В
                            Q
                                                                                                                                            ; OTHER INFORMATION: Representative cyclic modulating agent based
; OTHER INFORMATION: Protocadherin cell adhesion recognition seque
US-09-187-859-2724
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity luv. ..
""" Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-187-859-2724
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; FEATURE:
; OTHER INFORMATION: Representative cyclic modulating agent based on
; OTHER INFORMATION: Protocadherin cell adhesion recognition sequence
US-09-187-859-2721
                                                                                                                                                                                                                                                            CURRENT APPLICATION NUMBER: US/09/187,859A CURRENT FILING DATE: 1998-11-06 NUMBER OF SEQ ID NOS: 4052 SOFTWARE: PATENTIN VET. 2.0 SEQ ID NO 2724
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-187-859-2721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL INFORMATION:
APPLICANT: Blaschuk, Orest W.
APPLICANT: Gour, Barbara J.
TITLE OF INVENTION: COMPOUNDS AND METHODS FOR MODULATING NONCLASSICAL
TITLE OF INVENTION: CACHERIN MEDIATED FUNCTIONS
FILE REFERENCE: 100086.407C1
CURRENT APPLICATION NUMBER: US/09/187,859A
CURRENT APPLICATION NUMBER: US/09/187,859A
NUMBER OF SEQ ID NOS: 4052
SOFTWARE: Patentin Ver. 2.0
                                                                                                                                                                                                                                                                                                                                    APPLICANT: Blaschuk, Orest W. APPLICANT: Gour, Barbara J. TITLE OF INVENTION: COMPOUNDS AND METHODS FOR MODULATING NONCLASSICAL TITLE OF INVENTION: CADHERIN-MEDIATED FUNCTIONS FILE REFERENCE: 100086.407C1
                                                                                                                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 2724, Application US/09187859A Patent No. 6358920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQ ID NO 2721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 2721, Application US/09187859A Patent No. 6358920
                                                                                                                                                                                            TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH: 8
TYPE: PRT
                                                                                                                                                                                                                                                     LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM: Artificial Sequence
G
                8 LVTGC 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4 LVTGC 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8 LVTGC 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       w
                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          45.9%; 5c.
100.0%; Pr
                                                                            45.9%;
                                                              0;
                                                                          Score 28; DB 4; L
Pred. No. 1.7e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 28;
Pred. No.
                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1.7e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 4;
                                                                                         Length 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                         sequence
                                                       0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
                                                                                                                                                                           9
                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                       0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0,
```

Search completed: October 10, 2002, 06:20:47 Job time: 368 sec